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A BUSINESSPAPER FOR THE FARM CHEMICAL MANUFACTURER, FORMULATOR AND DEALER

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Scientific Breakthrough In Soybean Fertilization Sought by Work Groups

LAFAYETTE, IND.—The knotty problem of how to achieve greater per acre soybean yields through improved plant nutrition is being tackled by two special committees representing the soybean processing and the fertilizer industries.

Believing that the discovery of a feasible means of directly increasing soybean yields through the application of nutrients must come from a fundamental understanding of the physiology of the soybean, these two committees are cooperating in a drive to encourage and expedite fundamental research on soybean nutrition. A scientific "breakthrough" in this area, it is believed, would boost fertilizer usage sharply.

The committees are a Subcommittee on Soybean Physiology and Nutrition, acting for the advisory board of the National Soybean Crop Improvement Council, and a Soybean Work Group of the National Plant Food Institute.

The opportunity for fertilizer sales in this area can be seen from an analysis of the marked increase in acreage planted to soybeans during the past 30 years. In 1930, there were 3,473,000 acres planted and the average yield was 13 bu. per acre. In 1959 acreage had increased to 22 million but average yield went up only to 24.2 bu. per acre. Agronomists believe that production of 60 to 70 bu. per acre would be possible if the nutrition problems could be solved.

There are a number of areas for possible research, agronomists point out. Among them are these:

1. Difference in varietal response to nutrients. There are some 1,000 soybean varieties for which specific response curves have not yet been developed.

2. Nutrient concentrations in the total plant and in the various parts which define and separate deficiency, adequacy and luxury levels.

3. Rate of uptake and translocation of nutrients in the plant.

4. Placement of nutrients including band application and buildup in the soil.

5. Optimum nutrient levels in the soil.

6. Time and rate of application of nutrients.

7. Factors influencing pod shedding and filling, including temperature, water and nutrient supply.

8. Leaf area needed for most efficient production.

9. Effect of concentration of carbon dioxide on photosynthetic activity.

10. Efficiency of the various strains of nitrogen-fixing bacteria.

11. Nutrient effects on nodulated and non-nodulated varieties. It has been learned that it requires the energy equivalent of 6 bu. of soybeans for the nodulating mechanism to function when a yield of 20 bu. of beans per acre is produced. Maybe greater yields could be produced more economically using a non-nodulating strain and supplying the nitrogen synthetically.

As an expression of its interest in the proposed research, the National Soybean Processors Assn. has promised to contribute to this program

(Turn to SOYBEANS, page 17)

January Sulfur Report

WASHINGTON—The domestic sulfur industry produced 388,630 long tons of native sulfur and 54,907 tons of recovered sulfur (of a purity of 97% or greater) during January, 1960, reported the Bureau of Mines, U.S. Department of the Interior.

Producers' stocks of native sulfur increased over the previous month, and at the end of January totaled 3,845,754 tons.

Iowa Firm Plans New Liquid Facilities

LANYON, IOWA—Lanyon Farmers Cooperative Elevator Co. reported at its annual meeting plans to add liquid fertilizer facilities to its plant. Charles Manguson was elected a new director and Walter Peterson and Robert Sandberg were reelected to the board. Leonard Swanson is president of the cooperative and Elmer Johnson, manager. At the annual meeting Rayon Watts of the Felco company, Fort Dodge, was the speaker.

San Francisco Chemical to Build Phosphate Plant

SALT LAKE CITY—A 250-ton-per-hour capacity phosphate concentration plant will be constructed this year near Vernal in eastern Utah, San Francisco Chemical Co. announced last week.

Announcement of the new plant came from D. L. King, general manager of San Francisco Chemical's Idaho operations at Montpelier. The company has extensive operations in the Montpelier area.

Two railroad lines, Denver and Rio Grande Western Railroad Company and the Union Pacific Railroad Company, are computing costs of building rail lines to the plant site. High tonnage of the vast deposits indicates necessity of a rail line, company officials indicated.

Construction on the new mill is expected to begin on April 15 with completion by Oct. 15.

The plant will grind and dry ore. Mining will be by the open pit method with rock being mined and hauled to the new plant. Only raw phosphate will be turned out at the plant with further refining at other facilities.

The new mill is the first of an eventual six units which the company plans to build. Capacity of the combined production is expected to be more than a million tons of acid grade phosphate concentrates a year.

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Potash Deliveries For Farm Use Rise in 1959

4% Increase in Salts, K_2O Noted In Industry Report

WASHINGTON—Deliveries of potash for agricultural purposes in the U.S., Canada, Cuba, Puerto Rico and Hawaii by the eight principal American producers and the importers totaled 3,979,899 tons of salts containing an equivalent of 2,328,880 tons K_2O during 1959, according to the American Potash Institute. This was an increase of over 4% in salts and K_2O over the same period in 1958.

Continental U.S. took 2,175,581 tons K_2O, Canada, 96,411 tons, Cuba, 9,299 tons, Puerto Rico, 25,387 tons, and Hawaii, 22,202 tons K_2O. These figures include imports from Europe of 268,002 tons K_2O. Exports to other countries were 311,358 tons K_2O, an increase of 36%.

Deliveries of potash for non-agricultural purposes amounted to 147,129 tons K_2O, an increase of 24% over 1958. Total deliveries for all purposes were 4,735,967 tons of salts containing an equivalent of 2,787,367 tons K_2O, an increase of 8% in salts and K_2O.

Potash for agricultural purposes accounted for 95% of deliveries. Muriate of potash continued to be the most popular material comprising 94% of agricultural potash.

Of the muriate, standard grade was 1,472,621 tons K_2O, while granular muriate was 999,911 tons, an increase of less than 2% in the standard and 18% in the granular grade over 1958. Sulphate of potash and sulphate of potash-magnesia accounted for 6% of agricultural deliveries.

The total non-agricultural deliveries of 147,129 tons K_2O were about 5% of all potash deliveries and 24% over 1958. Included in these were 221,217 tons of muriate of potash containing an equivalent of 138,-

(Turn to POTASH, page 30)

January Super Output Exceeds That of Year Ago

WASHINGTON—U.S. production of superphosphate and other phosphatic fertilizers during January totaled 239,715 short tons (100% P_2O_5), compared with output of 225,616 short tons in January, 1959, the Bureau of the Census reported last week. Shipments last January amounted to 163,390 short tons, a gain over 154,082 short tons in January, 1959. Stocks on hand at the end of last January totaled 377,821 short tons, down from 385,448 short tons a year earlier.

Production last January included 122,451 short tons of normal and enriched, 84,618 of concentrated, 21,945 of ammonium phosphates and 10,701 of other phosphatic fertilizers, including wet-base goods.

Self-Annihilation of Insects by Chemical Sterilization Tested by USDA Scientists

WASHINGTON — Self-annihilation of insects by chemical sterilization, which prevents reproduction, is being tried in experiments by U.S. Department of Agriculture scientists as a means of controlling house flies and fruit flies.

These experiments mark the first laboratory trials of one of three new methods of insect control or eradication by self-destruction proposed recently by Dr. Edward F. Knipling, head of entomological research for the department's Agricultural Research Service. They will provide basic information on possibilities of applying the principle of induced sterility by means of chemicals.

The compound being experimentally used to sterilize the flies is a modified glutamic acid. Trials have shown that a concentration of as little as 1/100th of 1% of this chemical added to food for laboratory-reared house flies has prevented egg-laying or hatching and that 0.5 of 1% in a single feeding will cause permanent sterility in female flies.

Although satisfactory for use in testing the principle of chemical sterilization, the modified acid may not prove completely suitable as a practical means of insect control by this method. The experiments are being conducted at USDA's entomology laboratory at Orlando, Fla., by Drs. Germain C. Labrecque and Carroll N. Smith, and Patrick H. Adcock.

In one laboratory experiment, equal numbers of fly pupae were placed in three separate rooms—one containing food treated with the chemical, the second containing equal amounts of treated and untreated food and the third containing untreated food only. Although more than 20,000 progeny

(Turn to STERILIZATION, page 4)

BUG BATTLE LOOMS

COLUMBUS, OHIO—It looks like a bad summer for bugs in Franklin County, Ohio, says Howard Reynolds, assistant health commissioner. According to Mr. Reynolds, township trustees and village mayors are overwhelmingly in favor of the county buying spray equipment to use during the insect season.

The board of health had postponed action on a proposal to buy such equipment until it could be learned if the service was wanted.

Mr. Reynolds said trustees of all 17 townships and 13 of the 18 village mayors are in favor of spraying. The other five mayors have not expressed an official opinion.

He estimates cost of the equipment and operating it for the summer at $10,000 for 1960. It will run about $6,000 each summer after that.

New Mexico Quarterly Fertilizer Shipments Up

UNIVERSITY PARK, N.M.—Russell W. Ludwick, chief of the division of non-food inspection for the New Mexico State Department of Agriculture, announced that total shipments of commercial fertilizer into New Mexico during the last quarter of 1959 were 12% above shipments for the corresponding period of 1958.

Shipments totaled 2,687 tons, compared to 2,347 tons for the October-December period of 1958.

Six counties in the state . . . Chaves, Dona Ana, Curry, Eddy, Bernalillo and Hidalgo, received over 75% of the shipments.

Bulk of the shipments to Chaves County was 16-20-0 and the superphosphates. Over half of the Dona Ana shipments were 20% superphosphate. Anhydrous ammonia and urea compound accounted for almost 75% of the shipments into Curry. Eddy received more superphosphates than any other type of fertilizer. Superphosphates also comprised the bulk of shipments to Bernalillo and Hidalgo counties, Mr. Ludwick said.

Shipments of urea compound into the state the last quarter of 1959 almost doubled; ammonium nitrate shipments increased 30% over 1958; anhydrous ammonia dropped about 28% and superphosphates, 20% and 45%, also substantially decreased.

NAMED DISTRIBUTOR

MEMPHIS, TENN.—National Biocides, Inc., Memphis, has been organized to act as primary distributor of Davison Dri-Die products in all states east of the Rocky Mountains. The new company will market Dri-Die 67 and applicator, and Dri-Die Pet Powder. Dri-Die is a product of W. R. Grace & Co., Davison Chemical Division. It is a silica gel insecticide.

A recently compiled breakdown of Sulphur consumption in the United States, shows about 2% of the Sulphur goes into the manufacture of insecticides and fungicides.

Not much, perhaps, as tonnages go but no other use of Sulphur is more important with the possible exception of the 'wonder' drugs. It doesn't take much imagination to picture what would happen if the bugs and parasites were allowed to take over our crops and trees. Sulphur, along with other chemicals, is helping to protect our food supplies and foliage.

The role that TGS is playing in this constant fight against crop destruction is to see to it that the manufacturers of the insecticides and fungicides always have a ready supply of Sulphur, both solid and molten. This constant production and centralized distribution coupled with technical help is our contribution to industry.

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USDA Uses Soil Treatments for Plum Curculio Control

WASHINGTON — Experiments indicate soil treatment may eventually replace tree spraying to control the plum curculio in peach orchards, the U.S. Department of Agriculture reported.

Orchard tests, conducted by entomologist Oliver I. Snapp of USDA's Agricultural Research Service at Fort Valley, Ga., proved several insecticides capable of giving good control of the pest.

Aldrin, dieldrin, or heptachlor was spread in the spring on the ground under trees at a rate of about 2 lb. per acre and mixed with the top layer of soil. The treatment controlled the curculio (Conotrachelus nenuphar) by killing the pest before it could emerge from the ground. Similar results were obtained with all three of these chemicals.

In one of the tests, aldrin granules were spread under Elberta peach trees in March of 1957. No insecticide was used on the trees during the '57, '58, or '59 season. Only 1.6% of the harvested peaches were infested in 1957, 2.9% in 1958, and 0.7% in 1959. It is possible some beetles may have migrated from outside the treated orchard.

In another orchard, 2 lb. of aldrin per acre incorporated in the soil prevented the development of adults from most of the larvae which, over a three-year period, were placed on the soil under the spread of peach trees.

In a cooperative experiment with a Georgia peach grower, 64 lb. of 25% aldrin were mixed with each ton of 10-10-15 fertilizer and spread under several thousand trees in March, 1958.

Each tree was treated with 2½ lb. of the mixture, which amounted to 2 lb. of aldrin per acre. The material was broadcast by hand and disked into the ground. No wormy peaches were found when the orchard was harvested in 1958. In 1959 the owner found wormy fruit in only one small area. In contrast, peaches in a neighbor's untreated orchard were ruined by the plum curculio.

James F. Pouchot Named Product Manager

NEW YORK—The Chase Bag Co. has named James F. Pouchot as product manager of waterproof and crinkled paper products. He is connected with the firm's general sales offices in New York City.

James F. Pouchot

Mr. Pouchot joined Chase Bag in 1953 after 16 years as promotional director of the Textile Bag Manufacturers Assn., Evanston, Ill. After serving Chase as a sales representative for two years, he joined the General Sales Department and has been active in the promotion of specialty packaging products since that time.

Mr. Pouchot is a native of Chicago and a graduate of the University of Illinois.

NAMED ASSISTANT DIRECTOR

SACRAMENTO, CAL.—William E. Warne, California director of agriculture, announced the civil service appointment of William J. Kuhrt as assistant director of the California Department of Agriculture. Mr. Kuhrt, who supervises the activities of the divisions of marketing and marketing services, had been serving under temporary appointment as assistant director since May 15, 1959. He was selected for permanent service on the basis of a promotional examination.

Claude J. Neville

John R. Hersey

ELECTION—Claude J. Neville, formerly executive vice president and treasurer, has been elected president and general manager of the C. O. Bartlett & Snow Co., Cleveland, Ohio, according to company announcement. H. S. Hersey, formerly president and general manager, was elected chairman of the board of directors. John R. Hersey was elected vice president and treasurer, and F. W. Neville was elected purchasing director and assistant secretary. C. O. Bartlett continues as vice president and sales manager; B. A. Smith as vice president, secretary, and director of engineering, and H. A. Christy, vice president and director of manufacturing as formerly.

Hooker Announces Management Appointments

NIAGARA FALLS, N.Y.—Several new management appointments in the Western chemical division of Hooker Chemical Corp. and in Hooker's corporate management organization were announced by Thomas E. Moffitt, president.

James G. Baldwin

On April 1, James G. Baldwin will join Hooker in the new position of general manager of the Western chemical division. Each of the company's four divisions will then have a general manager, all responsible to Thomas F. Willers, vice president.

Early this summer, Horace W. Hooker, sales manager of that division, will move East to the company's new corporation headquarters at 666 Fifth Ave., New York City, to assume new corporate duties.

Effective April 1, Russell O. Vognild, who has been assistant sales manager of the Western chemical division since 1946, will become division sales manager, succeeding Mr. Hooker.

George A. Gentes, formerly production manager of the division, will become chief engineer for the corporation to fill the vacancy created with the appointment of Donald E. Springer as director of corporate engineering. Mr. Gentes, who will also move East in the early summer, will be located at Niagara Falls, headquarters for the corporate engineering department.

Until they move from Tacoma, Mr. Hooker and Mr. Gentes will serve in advisory capacities.

John W. Judy, technical superintendent at the Tacoma plant since 1951, is promoted to the previously unfilled position of works manager of that plant, effective April 1.

OPENS DISTRICT OFFICE

CLIFTON, N.J.—As part of a general enlargement of its representation in the Southwest, Richardson Scale Co. announced the opening of a district office in Houston, Texas. Designed to serve the increasing demands of customers in the area, the new office will be managed by Jerry Brice. Mr. Brice for many years has been familiar with Richardson automatic weighing and proportioning equipment, as an associate of the W. E. Brice Co. The address of the new office is: Richardson Scale Co., 2425 W. Holcombe, Houston 25, Texas.

Snow Cover Shouldn't Harm Top Dressing, Scientist Reports

MANHATTAN, KANSAS—Snow cover is delaying normal top dressing of winter wheat with nitrogen fertilizer. As a consequence, farmers and fertilizer salesmen are beginning to wonder how late in the spring top dressing of wheat would be profitable.

A Kansas State University soil scientist, Floyd Smith, indicated that such worries are without foundation.

"Data collected by the K-State department of agronomy in the Kansas Agricultural Experiment Station suggest that, in some years at least, top dressing nitrogen on wheat may be done late April with excellent prospects for increasing yields."

Mr. Smith told of one experiment at Manhattan where wheat topdressed with 50 lb. of nitrogen on April 25 gave average yields of 39 and 40 bu. an acre. Wheat without the top dressing produced only 27 bu. an acre.

The K-State scientist believes that a top dressing of nitrogen will pay at any time before the wheat plant reaches the jointing stage.

Kansas wheat growers who do top-dress this spring can expect excellent response, Mr. Smith added. For one thing, much of the wheat was planted late and had relatively poor growth last fall. And present prospects are for a relatively late spring and further delayed growth. In addition, there is considerable moisture in and on the soil.

Another factor in favor of top dressing is that low temperatures, such as have been the rule the past two months, delay the normal processes in the soil which make nitrogen available to plants. Low soil nitrogen availability is a condition making for profitable top dressing with nitrogen fertilizer.

Mr. Smith said top dressing may be done with solid forms of nitrogen (such as ammonium nitrate, urea, and ammonium sulfate), or with non-pressure nitrogen solutions (28 or 32% actual nitrogen).

Insecticide Rejected For Tobacco Control

RALEIGH, N.C.—The use of MH-30 for controlling suckers on tobacco plants has been rejected by the North Carolina Agricultural Experiment Station.

Dr. Kenneth R. Keller, in charge of tobacco research at State College, made known the experiment station's position on the controversial chemical at a special MH-30 conference here March 16.

Attending the conference were leaders of North Carolina's tobacco and general farm organizations, also a large number of prominent tobacco growers.

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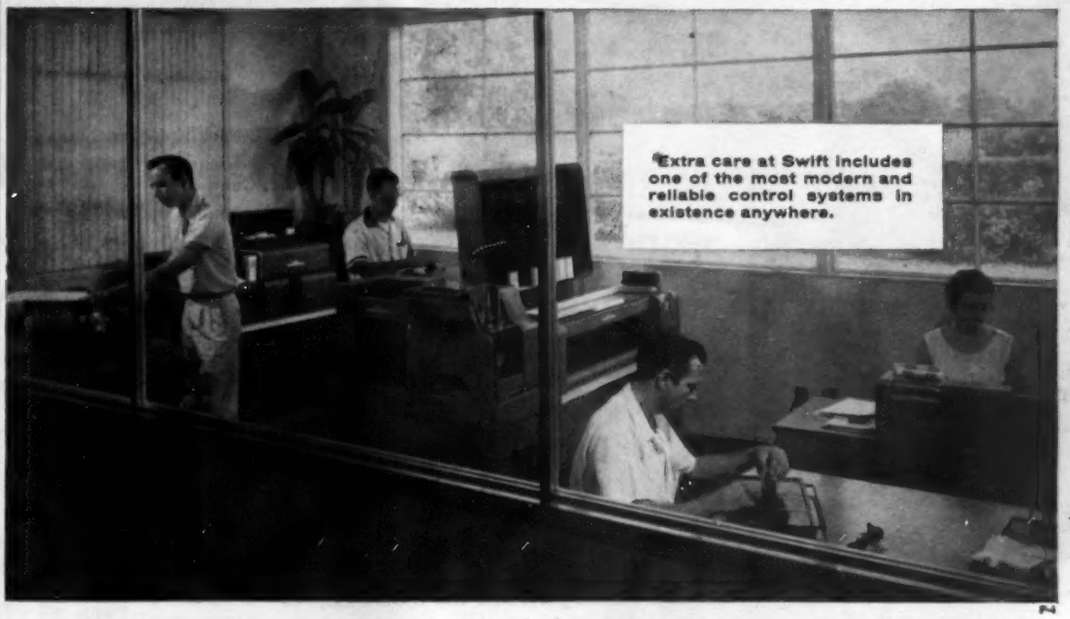

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Fertilizer Company Executives Discuss Weather, Voice Optimism for Future

By LAWRENCE A. LONG
Croplife Editor

SKOKIE, ILL.—That fertilizer prices have been reduced, while the quality and value of plant food has been on the increase for the past 10 years, was indicated by a group of fertilizer company executives brought together by International Minerals & Chemical Corp. for a two-day "customer advisory panel" discussion. The company heads described market conditions in their localities, pointed up current problems posed by adverse weather and generally voiced optimism at the long-term fertilizer picture.

Participating on the panel at a morning conference March 23 were Richard E. Bennett, president, Farm Fertilizers, Inc., Omaha, Neb.; L. G. Black, president, Ark-Mo Plant Food Co., Inc., Corning, Ark.; T. F. Bridgers, president, Farmers Cotton Oil Co., Wilson, N.C.; John C. Crissey, division manager, G.L.F. Soil-Building Service, Ithaca, N.Y.; Edward D. Kingsbury, vice president, Kingsbury & Co., Inc., Indianapolis, Ind.; W. Newton Long, chairman, Miller Chemical & Fertilizer Corp., Baltimore, Md.; Alex Mooney, general sales manager, Canada Packers, Ltd., Toronto, Ont.; J. D. Stewart, Jr., president, Federal Chemical Co., Louisville, Ky., and president of the National Plant Food Institute, and W. F. Williamson, Sr., president-general manager, Louisiana Agricultural Supply Co., Inc., Baton Rouge, La.

Chairman of the press conference was Nelson G. White, IMC vice president. Louis Ware, chairman of the IMC board of directors, welcomed the guests and Anthony E. Cascino, IMC vice president in charge of marketing, pointed out statistical evidence of increased fertilizer use on additional crops in future years. He indicated that despite the temporary setback caused by unseasonal snows in many portions of the country during March, the fertilizer industry can recoup much of this tonnage if normal weather conditions return without delay.

Some of the fertilizer firm officials indicated that plant storage areas are bulging with manufactured goods to the extent that production has had to be curtailed until field conditions permit movement of the plant food. "When the farmer can start to get into his fields, we will have all the business we can handle, but we may not be able to take care of all the business we will probably get," Mr. Bennett remarked at the conference.

His prediction was reiterated by other fertilizer company heads who said they were expecting the same situation. Mr. Mooney, describing the situation in eastern Canada, said that bad weather has had an ill-effect on fertilizer prospects in his country, too. "If roads are bad and farmers cannot get to the fertilizer plants, some crops may be planted without fertilizers," he said. In Ontario, he continued, some 460,000 tons of fertilizer are consumed, with some 24 plants competing for the business. "Whether these plants have enough fertilizer on hand for a short delivery season, only time will tell," he added. There is ample plant capacity for manufacturing, but the problem is that of having enough material on hand ready for delivery when the peak demand comes.

Other fertilizer company executives discussed matters of collecting on accounts, the emergence of diversified crops in their areas and marketing problems brought about by the increasing size of farms which permits wholesale purchases of fertilizer in some cases.

Mr. Crissey reported that urban development, new highways, airports and other developments are removing many thousands of acres from agriculture. These factors added to the loss of hundreds of thousands of acres in the soil bank program tend to make fertilizer sales level off. He added, however, that grassland fertilization offers one of the best potentials for added tonnages of plant food.

Somewhat the same story was told by W. Newton Long, who informed the group that a considerable loss was also felt when heptachlor and fertilizer mixtures ceased to be used because of Food and Drug Administration rulings. However, he said, "I am a short term pessimist and a long term optimist. The total outlook for the 1960 season depends upon government supports, weather, and selling price possibilities."

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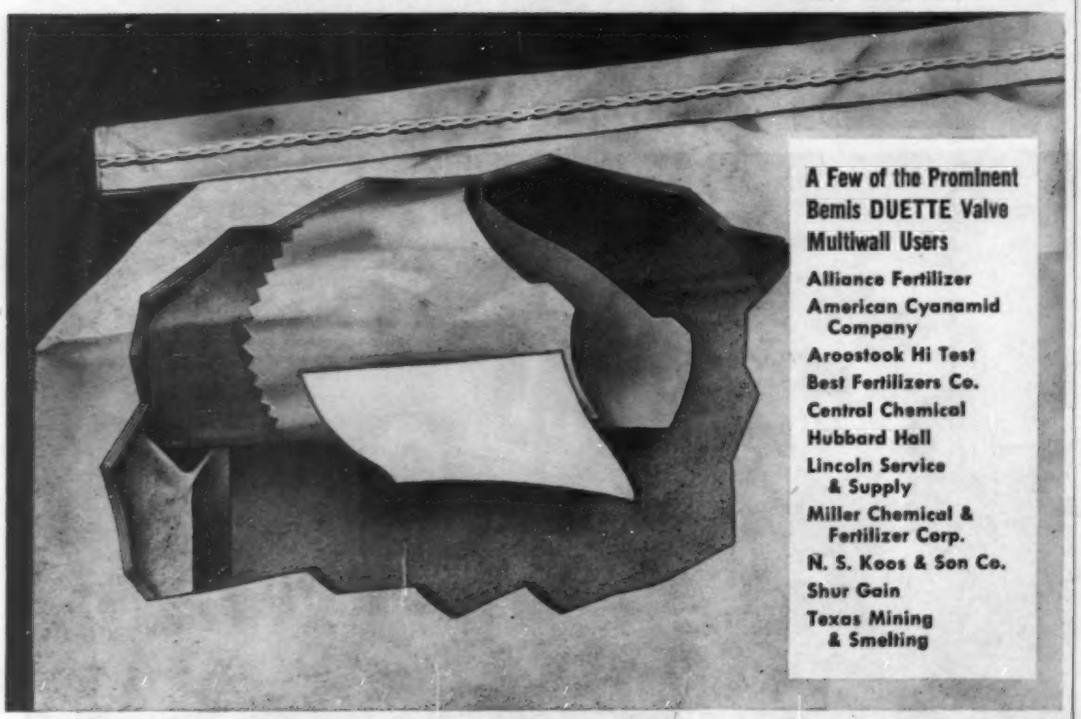

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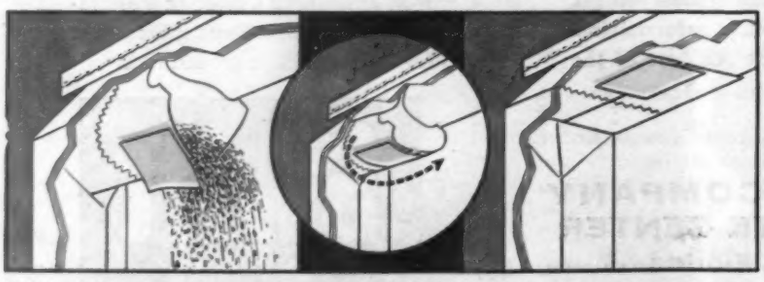

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STERILIZATION

(Continued from page 1)

were produced in the room in which untreated food was available, only 100 or 0.5 of 1% were produced in the room in which treated food was offered, and 460, or about 2%, in the room in which both treated and untreated food was supplied.

In another experiment treated food was given to female flies for a single day. The flies produced viable eggs the following day but only a single fly produced viable eggs thereafter.

Male flies, according to tests made so far, are not sterilized by eating food containing the chemical. To be fully effective, chemical sexual sterilants of maximum effectiveness will have to produce sexual sterility in both males and females without adverse effects on mating behavior.

Control of house flies through release of male flies sterilized by irradiation has been considered. This method has been used successfully on screwworms in the southeastern states and on the Caribbean island of Curacao. Dense populations of house flies, however, and the need to release equal or greater numbers of sterilized flies to overcome wild populations, are limiting factors in the use of this method to control this pest.

The chemical sterility method now under study, if eventually successful, would not require release of treated flies, as food treated with an effective chemo-sterilant could be made generally available.

Other control and eradication methods recently suggested by Dr. Knipling include the production and release: (1) of diseased insects to infect and kill their own kind and (2) of insects possessing lethal genetic characteristics that could control or eradicate an insect pest. The first of these two methods is also being investigated under laboratory conditions, but investigations on lethal genetic characteristics are not yet underway.

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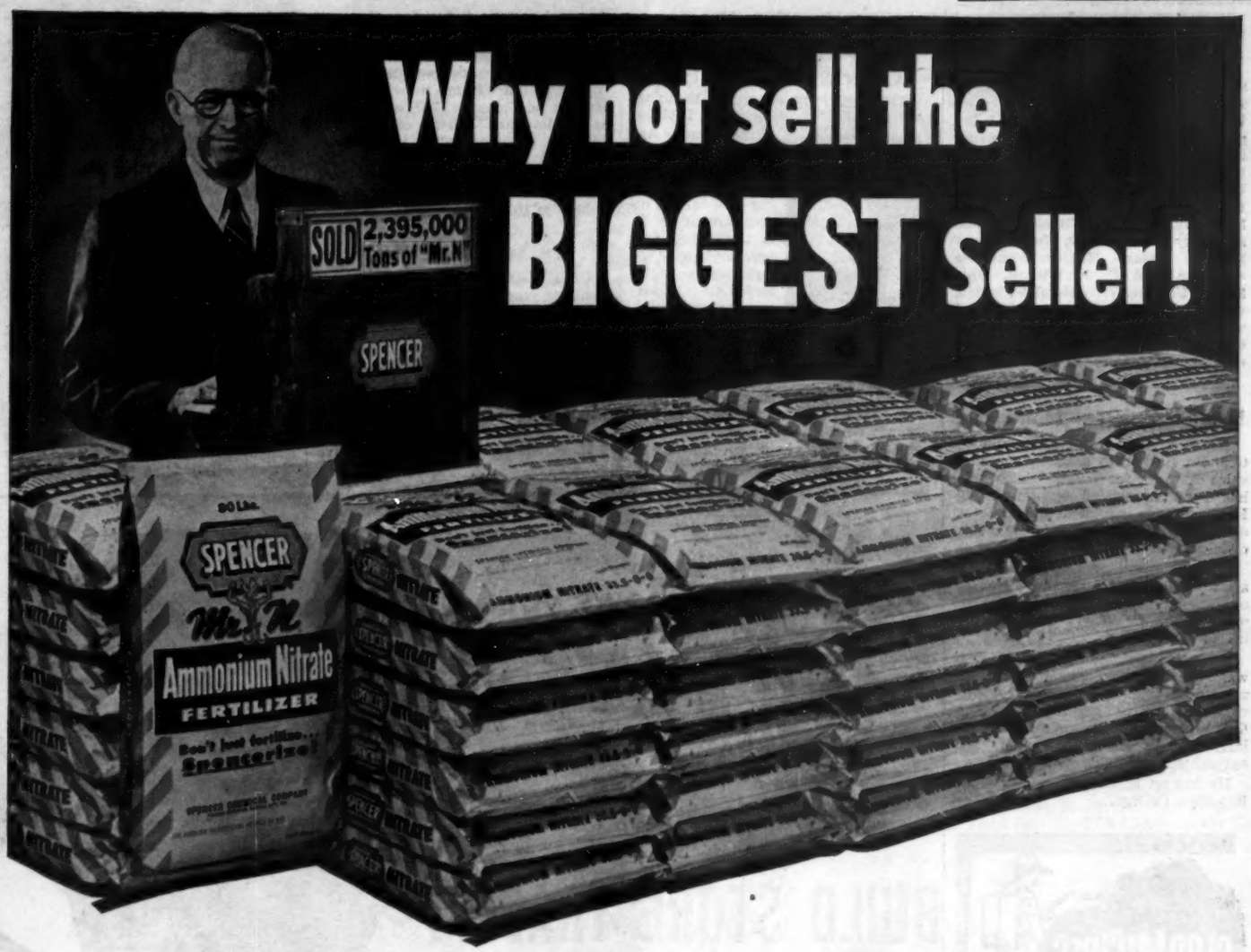

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Full-page ads in state farm papers and leading farm magazines are combined with local farm shows and spot announcements on radio to bring in new customers—prospects not only for "Mr. N," but for mixed fertilizers, too.

This year, more farmers than ever will be buying extra nitrogen to boost their yields. That means new business for you. Why not go after more than your share by selling the biggest seller—Spencer "Mr. N" Ammonium Nitrate. Place your order with your mixer salesman right away!

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Dealers handling mixed goods in bulk report that bulk "Mr. N" Ammonium Nitrate makes a profitable addition to their line. Custom application of "Mr. N" is catching on, too!

"Mr. N" enough to cover 26,000,000 acres of cornland with 60 lbs. of actual N per acre! A hearty thanks from Spencer to you fine dealers who made "Mr. N" the world's largest selling brand of ammonum nitrate. You and "Mr. N" are the profit winning team—so stock up big for an even bigger 1960!

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WEED SOCIETY OFFICERS

DENVER, COLO.—K. P. Buchholtz, University of Wisconsin, Madison, was elected president of the Weed Society of America at the group's recent third annual meeting in Denver. Other officers named at the convention included: W. C. Shaw, U.S. Department of Agriculture, Beltsville, Md., vice president; F. W. Slife, University of Illinois, Urbana, secretary; W. C. Jacob, University of Illinois, Urbana, treasurer-business manager, and C. J. Willard, Ohio State University, Columbus, Ohio, editor of "Weeds". The new president succeeds A. S. Crafts, University of California, Davis, who held office for the preceding term.

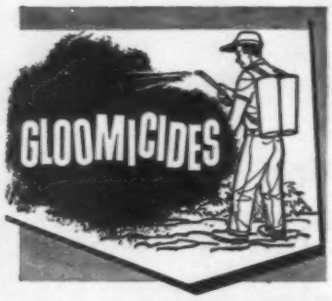
Named Assistant Manager

NEW YORK—The promotion of Graham Barker to assistant product sales manager for Witco's Emcol line has been announced by Jerome S. Harrison, vice president and director of marketing of the organic chemicals division, Witco Chemical Co., Inc.

In his new post, Mr. Barker will assist Arthur O. Raven, Emcol product sales manager. He continues to operate out of Witco's headquarters in New York City.

Prior to his promotion, Mr. Barker was with Witco's eastern regional sales department. His background includes extensive experience in the field of surface active agents, particularly Witco's Emcol emulsifiers for agricultural pesticide concentrates.

He has an M.A. in chemistry from Brooklyn College.



The district attorney was questioning a Kentucky colonel in court. Unable to shake his testimony, he tried sarcasm. "They call you colonel," he sneered. "In what regiment are you a colonel?"

"Well it's like this," drawled the colonel. "The 'colonel' in front of my name is like the 'honorable' in front of yours. It doesn't mean a thing."

★

Sign in a restaurant window. "T-Bone—two cents." Then in fine print underneath: "With meat—$4."

★

First voter: "I don't want to vote for any of the candidates. I don't know any of them."

Second voter: "I don't know what to do either. I know all of them."

★

The little girl was telling her teacher about her baby teeth coming out. One tooth was loose and she had already lost three. She said, "Pretty soon I'll be running on the rim."

★

With both motors of his plane hopelessly on fire, this pilot showed classic courage. As he donned a parachute, he shouted to the passengers:

"Don't anybody panic. I'm going for help now."

★

An ancient auto puffed and wheezed up to the toll gate.

"Fifty cents!" the attendant said.

"Sold," replied the driver.

Armour Appoints New Technical Director

ATLANTA, GA.—Marion C. Manderson has been appointed technical director, Nitrogen-Phosphate Division of the Armour Agricultural Chemical Co., effective March 14, according to an announcement by R. L. James, vice president of the fertilizer manufacturing firm, and general manager of its Nitrogen - Phosphate Division.

M. C. Manderson

Prior to his appointment with Armour, Mr. Manderson was associated with the Arthur D. Little Research firm in Cambridge, Mass., for the past five years, specializing in technical economic studies in the chemical-process industries, the announcement said.

Mr. Manderson received his bachelor of science degree in marine transportation from the Merchant Marine Academy in 1947, and served as a Merchant Marine officer until 1949. In further studies, he received a Bachelor of Science degree in business engineering administration from the Massachusetts Institute of Technology in 1953.

4-H AWARDS PENDING

CHICAGO—For the eighth consecutive year the plant food division of the Olin Mathieson Chemical Corp. will honor eight "graduates" of 4-H Club work. They will be presented at the annual banquet during the 39th National 4-H Club Congress in Chicago next December. There they will receive gold alumni keys which are given each year to eight former 4-H'ers who have "continued to live by 4-H ideals."

Sales Gain Noted

LOS ANGELES — Earnings of American Potash & Chemical Corp. for 1959 increased 18% on a sales gain of 14% over the preceding year, announced Peter Colefax, president.

Net sales for the year ended Dec. 31, 1959, totalled $54,621,189 as compared with $47,920,105 for the previous year.

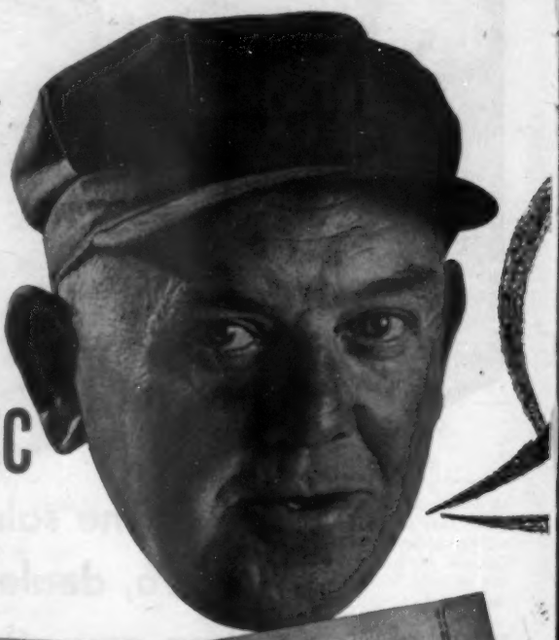
Net income amounted to $5,149,755 compared with $4,37C,443 for the preceding year. After deducting preferred dividend requirements earnings per share for 1959 were $2.17 on the 2,274,221 shares of common stock outstanding at the end of the year. This compared with $1.83 per share for 1958 on the 2,270,877 shares then outstanding.

AREA ASSIGNED

CLIFTON, N.J.—Officials of Richardson Scale Co. have announced the assignment of John Hageman to the Toronto, Canada, area.

"Red" Emm shows you...

HOW MONSANTO WEED KILLERS BUILD STORE TRAFFIC ...HELP YOU SELL!



New "Red" Emm SUPER-6 CONCENTRATES! Brush Blitz, Crop-Guard Weed Killer, Brush-O-Cide, and Field Clean Weed Killer... a new line of 6-lb. formulations that give your customers more "kill" at a lower cost... two cans do the work of three! These SUPER-6's spray 50% more acreage than ordinary 4-lb. formulations.

Allied Chemical Names Vice President

NEW YORK—William H. Van Beck has been appointed a vice president of Allied Chemical's Nitrogen Division, announced Jacob White, division president.

W. H. Van Beck

Mr. Van Beck, who is also division comptroller, will assist the president on administrative and financial matters.

A native of Brooklyn, N.Y., he attended schools in Brooklyn, N.Y. and Boston, Mass. The new vice president started his career with Allied Chemical in 1931 as an accounting clerk with the company's National Aniline Division at its Buffalo, N.Y., office. Subsequently, he succeeded to various positions of responsibility in the division's accounting department, and was assistant comptroller of National Aniline from 1951-1955. He has been comptroller for Nitrogen Division since 1955.

NAMED DEPARTMENT HEAD

DALLAS, TEXAS—Crawford Winton has been named head of the agriculture supply department of Van Waters & Rogers, Inc., Dallas office, for the southwestern territory, announced Milton L. Warrick, vice president and Texas manager. Before joining Van Waters, Mr. Winton served in various capacities of management and sales for the Nichols Seed & Fertilizer Co., Oklahoma City. In March the company plans to open its new Houston plant and an additional sales office will be a part of that operation. Mr. Winton is a graduate of Oklahoma State University with a B.S. degree in agriculture.

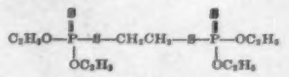
PATENTS and TRADEMARKS

2,928,766

Method of Killing Nematodes by Treatment with 3-Halo-2,3-Dihydrothiophene-1,1-Dioxide. Patent issued March 15, 1960, to Irving Rosen, Painesville, Ohio, assignor to Diamond Alkali Co., Cleveland, Ohio. The method of killing nematodes which comprises applying to nematode-infested soil a composition of matter containing as an essential active ingredient a 3-halo-2,3-dihydrothiophene-1,1-dioxide present in a nematocidal amount.

2,928,862

Pesticidal Phosphorus Esters. Patent issued March 15, 1960, to Joe R. Willard and John F. Henahan, Middleport, N.Y., assignors to Food Machinery and Chemical Corp., New York. A pesticidal composition comprising a toxic concentration of 1,2-bis(S-(diethoxyphosphinothioyl) mercapto)ethane of the formula



and an inert pesticidal adjuvant as carrier therefor.

Industry Trade Marks

The following trade marks were published in the Official Gazette of the U.S. Patent Office in compliance with section 12 (a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. (See Rules 20.1 to 20.5.) As provided by Section 31 of the act, a fee of $25 must accompany each notice of opposition.

Colorshine, in capital letters, a pigment for coloring plant leaves. Filed Oct. 8, 1959 by Swiss Farms, Inc., Philmont, N.Y. First use Sept. 9, 1959.

Stonelite, in capital letters, for kiln dried ground or pulverized limestone also known as agricultural limestone. Filed July 13, 1959 by Ohio Lime Co., Woodville, Ohio. First use March 1, 1933.

Pastran, in capital letters, for liquid fertilizer. Filed Sept. 25, 1959 by Flo-Lizer, Inc., Kingston, Ohio. First use Sept. 9, 1959.

Delaney Clause Hit In Abbott Report

CHICAGO—The Delaney clause of the food additives amendment "appears to have curtailed the Food and Drug Administration's former scientific approach" to additive problems, Abbott Laboratories declares in its 1959 annual report.

The clause "is laudable in that it aims to ban use of possible cancer-causing agents," the report notes; however, "rigid and narrow interpretation of regulations covering feed additives that have been proved valuable through years of use complicates our work in this field.

"This is a concern to all companies in the industry," says the report. "Nevertheless, it is our belief that the exercise of scientific judgment must eventually prevail."

NAC Annual Meeting Dates Announced

WASHINGTON—The official dates for the 1960 annual meeting of the National Agricultural Chemicals Assn. are Sept. 27-29, at the Hotel Del Coronado, Coronado, Cal., announced Lea S. Hitchner, executive secretary.

Reservations should be sent directly to the Hotel Del Coronado, Mr. Hitchner said.

Program plans have not yet been completed, but will be announced at a later date.

SALESMAN NAMED

GLENDALE, ARIZ.—Thomas H. Clemens has been appointed Arizona sales representative, Agricultural Chemicals Division, Stauffer Chemical Co. He will make his headquarters at Glendale. Mr. Clemens is a graduate in Entomology of Texas A&M and has had several years experience in agricultural chemical sales.

Here's a free double-barreled direct mail program that really brings the customers in... a tried and proven traffic builder... just stock 100 gallons of any combination of Monsanto weed and brush killers. Monsanto will send out two mailings to 100 of your top customers. The first mailing invites them to come into your store... the second mailing offers them a $1.00 pack of farm utility needles absolutely free! You get 200 mailings and 100 of these useful needle packs at no charge.

Grassy-Weed Killers! Randox® and Vegadex®—new spray-as-you-plant weed killers—knock out grassy weeds in corn, soybeans, and vegetables. Exclusive products for higher dealer profits.

Easy-to-use containers that "tell" and "sell"! These new 5-gallon spout-top cans almost sell themselves. Each can tagged with complete "how-to-spray" instructions written in plain language.

Monsanto advertising sells and re-sells your customers! Your customers will see "Red" Emm products advertised in Farm Journal, Progressive Farmer, Farm Quarterly and many state farm papers.

Lifelike display of "Red" Emm solves weed problems! Giant display with the "dial-the-crop" selector answers customers' questions for you tells just what weed killer to use.

Monsanto®

Learn how Monsanto can help you sell more in 1960. Mail this coupon right now (while you are thinking about it) and get all the money-making facts.

Monsanto Chemical Company, Organic Chemicals Division
Agricultural Chemicals Department, St. Louis 66, Missouri

Sounds good! Please send me more information regarding the new Monsanto Weed and Brush Killer line.

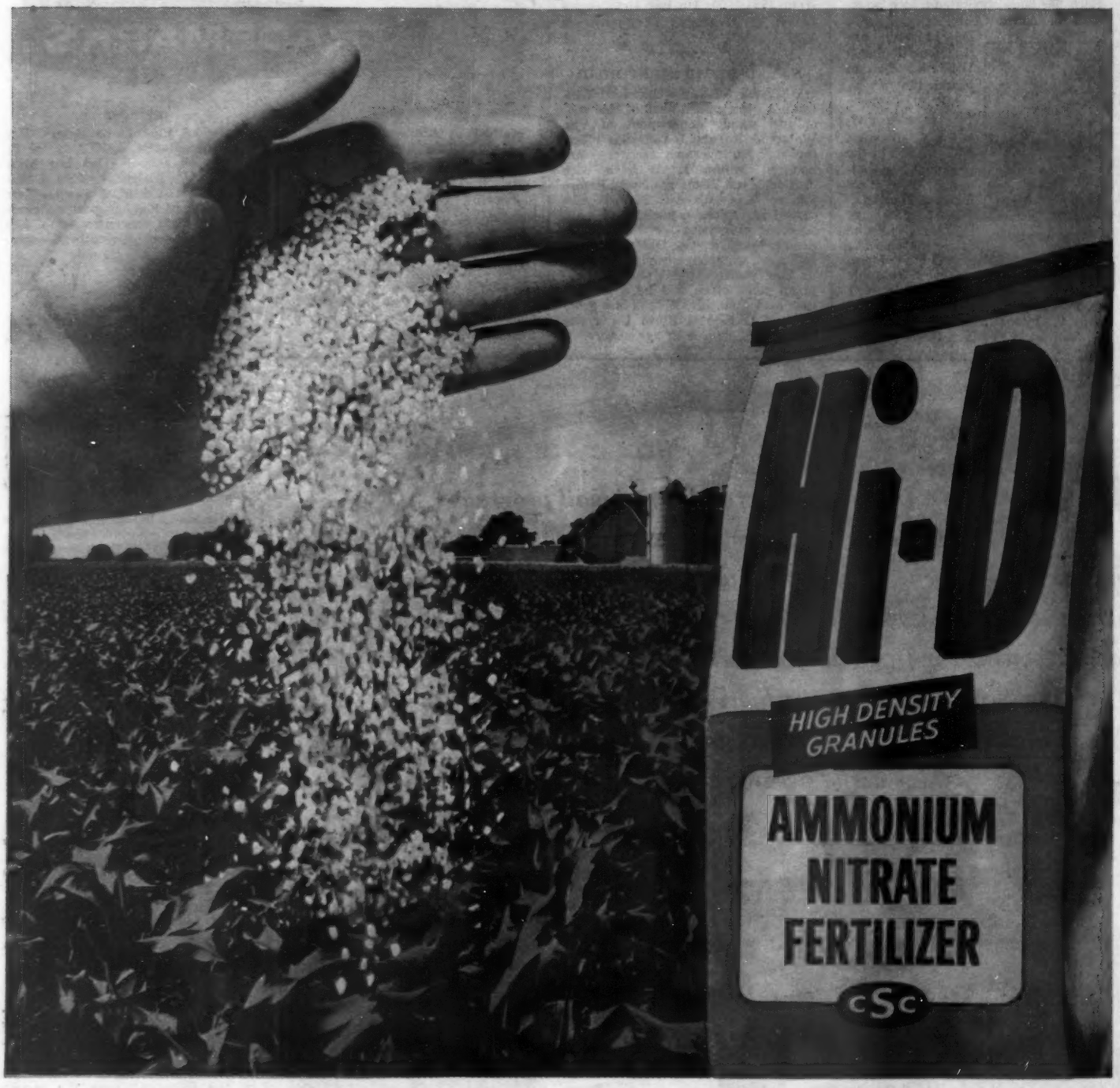
NAME.....

FIRM.....

ADDRESS.....

CITY or COUNTY.....STATE.....

During the fertilizer season, advertisements like this in full color are appearing in Farm Journal, Farm & Ranch, Progressive Farmer, and Successful Farming.



Keeps crops on the grow

it's the ammonium nitrate that's granular!

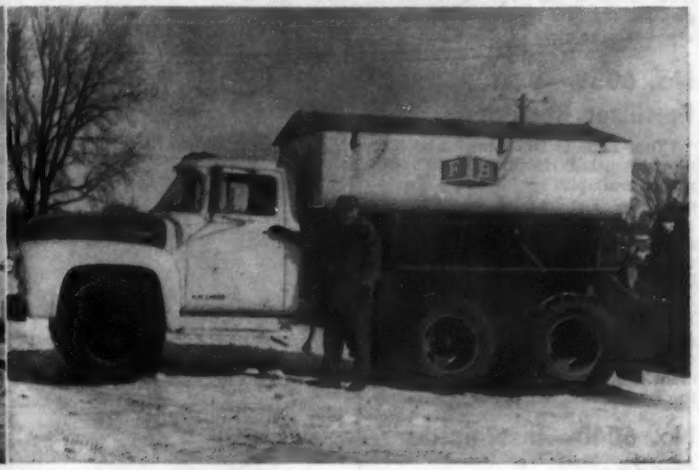
Corn, cotton, wheat, pastureland — whatever your crop, Hi-D® is the nitrogen fertilizer to use. You'll find it better than any ammonium nitrate you ever used before.

Hi-D always flows freely! Hi-D's special granules are unusually high in density and super dry, have much less tendency to pick up moisture prior to application. You will find it most satisfactory out in the field, even under humid conditions. Hi-D doesn't gum-up, won't clog, cake or bridge in your spreader.

Hi-D has a guaranteed analysis of 33.5% nitrogen. Half of this is nitrate nitrogen for vigorous early growth. The other half is ammonia nitrogen for sustained follow-up feeding. Your crops get the two types of nitrogen they do best on!

Let Hi-D keep your crops on the grow. It's sound management. But remember, first test your soil, lime if necessary and follow with the mixed fertilizer your dealer recommends. Then add the supplementary boost of Hi-D. Ask your dealer for it by name. Hi-D—best in the land!

COMMERCIAL SOLVENTS CORPORATION, AGRICULTURAL CHEMICALS DEPARTMENT, 260 MADISON AVENUE, NEW YORK 16, NEW YORK
OFFICES IN ATLANTA, CHICAGO, CINCINNATI, CLEVELAND, DETROIT, KANSAS CITY, NEW ORLEANS, ST. LOUIS, STERLINGTON, LA.



HEAQUARTERS for the Farm Bureau Service Co. in St. James, Minn., is the building pictured above left. It is also used for a storage building and repair shop. The right photo shows one of the three spreader boxes owned by the company. Individual operators own the truck beds.

For Customer Service . . .

Minnesota Firm Keeps Inventory Complete

By J. I. SWEDBERG
Special Croplife Writer

"We've got it, we've got it the year round, and we never have been out." That is what Vaughn Sinclair, manager of the Farm Bureau Service Co. at St. James, Minn., says about company inventory policy. "The practice," he says, "is one of the keystones in the success of our business."

Total dollar volume of business for the organization in 1959 was $535,000; of this amount $219,000 represents the fertilizer end of the business. Other lines are chemicals, feed, and petroleum products.

The annual gross margin hovers around 10%, Mr. Sinclair adds, and expenses come out of the margin.

Interesting to note is the fact that the fertilizer business jumped from $72,000 in 1953 to $219,000 in 1959, almost triple in volume.

Practices rated high by Mr. Sinclair as business builders are these:

1. Farm calls. These are not necessarily sales calls. "We check on results obtained from the use of our merchandise. It is a matter of getting to know the customer better, and his getting to know us. We become acquainted with his problems, and he knows that we are interested."

2. Fertilizer spreading service. "This also provides contacts and played a big part in the jump in our sales from 1953 to 1959."

3. Maintaining adequate inventories.

4. Good public relations. "We will work with anyone who will work with us, including the University, the extension service, the high school and other merchants. We send business to other dealers, and like to think that they are sending business to us. We cannot work alone."

5. Advertising.

6. Displays at annual events such as crop shows, egg shows, and the like.

7. Educational work.

Volume-wise, a total of 2,700 tons of fertilizer is handled annually, Mr. Sinclair reports. About 1,700 tons of it is bulk, 600 tons in bags and 400 tons liquid. No anhydrous ammonia is handled at present, although it probably will be in the future, Mr. Sinclair points out.

The building used by the company for bulk storage is the original headquarters, and is located five miles out in the country. The location works out well for the fertilizer that we spread, says Mr. Sinclair, but it is not practical to send customers out there.

"We also store on the fair grounds and in additional building that we have. The present investment in the storage building is practically nil; however we own a site near our head-

(Turn to SERVICE, page 13)

OVER THE COUNTER

By Emmet J. Hoffman
Croplife Marketing Editor

Fertilizer use by home owners is increasing! And questions such as what kind, when to apply it, where to put it and how much are also increasing, as many dealers well know.

The better-versed a dealer is in answering these questions, the more sales will follow.

Answers to these questions are not always easy to find. And no one article can set down the answers for the whole country.

But there are a few principles which can be used as guides to answering the questions in your area. According to William F. Bennett, extension soil chemist, Texas Agricultural Extension Service, here are some of these principles:

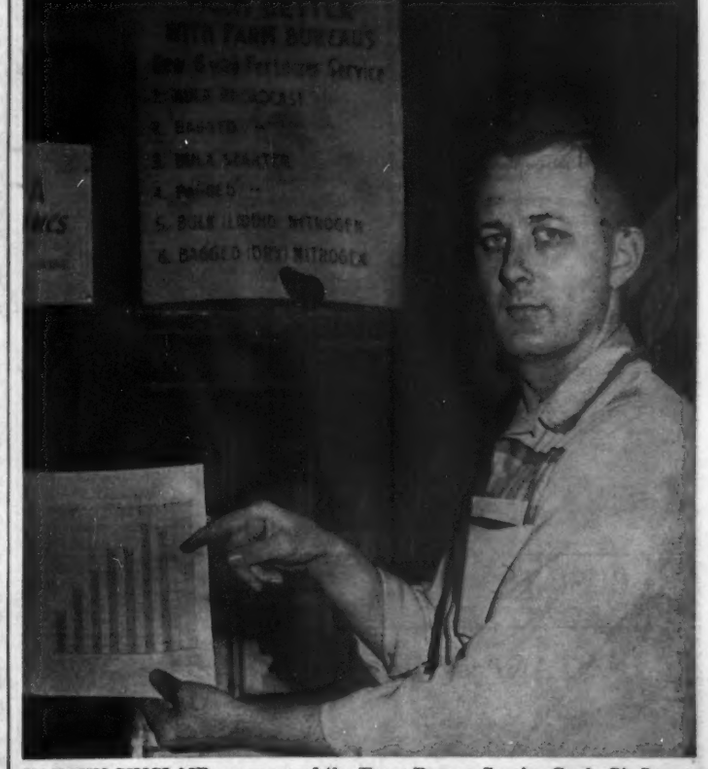
WHAT KIND? Plants grown for their foliar growth usually have a high nitrogen requirement plus supplemental applications of other needed nutrients—generally phosphorus and sometimes potassium and calcium.

Plants grown mainly for flowers generally need low nitrogen and high levels of phosphorus, potassium and calcium where needed. In plants grown for both flowering and vegetative growth, a moderate level of all nutrients is generally best.

Nitrogen encourages vegetative growth and phosphorus encourages reproductive growth. Potassium and calcium tend to act as "balancers" in plant growth.

Another pointer not to overlook is the soil test. Most agricultural colleges provide this service at a nominal fee. It may not be convenient to wait for a soil test when the customer is ready to buy—but, why not suggest he use one before buying ferti-

(Turn to OVER THE COUNTER, page 14)



VAUGHN SINCLAIR, manager of the Farm Bureau Service Co. in St. James, Minn., shows a chart which keeps track of how the fertilizer business advances year by year.

WHAT'S NEW

IN PRODUCTS · SERVICES · LITERATURE

To obtain more information about items mentioned in this department simply: (1) Clip out the entire coupon in the lower corner of this page. (2) Circle the numbers of the items of which you want more information. Fill in the name and address portions. (3) Fold the coupon double with the return address portion on the outside and fasten the edges with a staple, cellophane tape or glue. (4) Drop in the mail box.

No. 6039—Bulk Fertilizer Booklet

"Your Land Is Different," a booklet on modern bulk fertilization, is being made available by Highway Equipment Co. The booklet, according to the company, contains timely, money-saving tips on such farm problems as restoring plant foods, soil testing, liming, proper application of fertilizer and effective spreading patterns. In addition, the booklet notes bulk spreading methods as well as modern commercial bulk spreading equipment. For copies, check No. 6039 on the coupon and mail.

No. 6040—Insecticide Guide

A compact guide for users of Thiodan insecticide, a spray-dust material designed for control of a wide range of insects on a variety of crops, has been released by the Niagara Chemical division of Food Machinery & Chemical Corp. The guide features an easy-to-read chart on how to use the product, the company says, plus suggested amounts for control of specific pests, time of application and other pertinent data on individual crops. For copies of the guide, check No. 6040 on the coupon and mail.

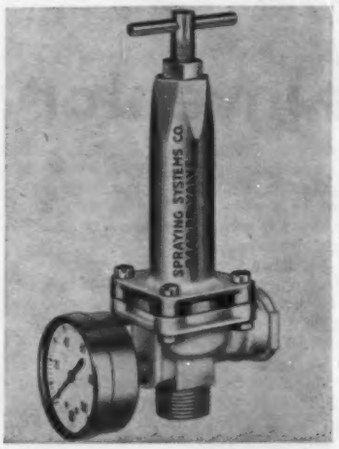
No. 6037—6-Row Boom Kit

A six-row boom kit (Model 640-E) has been introduced by Hahn, Inc. The boom is specially designed for application of liquid fertilizers and features an aluminized-steel boom pipe, the company says. The three-section design covers full six rows. It can be used with all Hahn trailers, Hahn tractor-mounted sprayers and

other type tractor sprayers, the company says. For details, check No. 6037 on the coupon and mail.

No. 6038—Pressure Relief Valve

A pressure relief valve for use on farm sprayers, has been introduced



by Spraying Systems Co. The liquid-contact face of the valve is a special corrosion resistant diaphragm that results in responsive, chatter-free pressure control, the company says. Supporting the setting of the diaphragm is a dual stainless steel spring assembly, consisting of a light spring for the lower pressure range and a heavy spring for the high pressure range. All parts of the valve that come in contact with chemicals are made of nylon and stainless steel, the company says. For details, check No. 6038 on the coupon and mail.

Also Available

The following items have appeared in previous issues of Croplife. They are reprinted to help keep dealers on the regional circulation plan informed of "What's New."

No. 6030—Brochure on Weed Killers

Reasor-Hill Corp. announces the availability of a brochure called "Now—Granular Weed Killers." The color illustrated publication is a reprint of an article by a U.S. Department of Agriculture research engineer. It contains information on granular weed killers, including advantages and disadvantages. Microscopic illustrations of some common carrier materials are contained. For copies of the brochure check No. 6030 on the coupon and mail.

No. 6029—Scale Literature

The full line of Toledo scales for industrial use is presented in literature released by Toledo Scale, Division of Toledo Scale Corp. The broadside illustrates and describes standard Toledo weighing equipment including portable, bench, floor, built-in, motor truck, counting, net weight packing and mail and parcel post scales. Several types of Toledo equipment custom-built to user needs are also briefly described. For a copy check No. 6029 on the coupon and mail.

No. 6026—Product Catalog

Schelm Brothers, Inc., announce the availability of Catalog No. 60, containing descriptions of its line of application equipment for nitrogen solutions and liquid mixed fertilizers. The catalog has illustrations and drawings of all the major components of its line, plus specifications and data on each. Sections are included on aluminum tanks, solution transfer units, skids for tanks, pull type applicators, spray booms and a section on repair parts and accessories. A price listed is inserted. For copies of the catalog check No. 6026 on the coupon and mail.

No. 6033—Static Electricity Neutralizer

Statikil, Inc., announces a formula is available packaged in self-spraying cans or bulk for neutralizing static electricity. Among some of the suggested industrial uses are for industrial machinery, meters and indicators. The company says the product is effective as a spark retardent in hazardous operations. Effect of the product is cumulative so that continued use provides a durable static freedom. It dries instantly and in-

visibly, and can be applied by swabbing, wiping, spraying with hand pump or power spray or by fogging onto material by means of fully automatic jet nozzles. For details, check No. 6033 on the coupon and mail.

No. 6025—Spray Mulch Booklet

Alco Oil & Chemical Corp. announces the introduction of "Vulcanol" for use as a spray mulch along highways and landscapes to control soil erosion and speed seed germination. A color booklet, describing in detail the advantages, applications and equipment required; recommended dilutions, typical Vulcanols, and the colors in which they are available, can be obtained by checking No. 6025 on the coupon and mailing to this publication.

No. 6028—Fertilizer Spreader

A fertilizer spreader that can be attached to the plow or to the front end of the tractor has been an-

nounced by Greystone, Inc. Called the "P.D.Q.," the spreader spreads fertilizer ahead of the plow, with the plow then turning the soil and plowing under the fertilizer. Spread in this way, the company says, the fertilizer cannot wash or blow away. It handles all dry commercial fertilizers, the company says. For more information check No. 6028 on the coupon and mail.

No. 6032—Ammonium Nitrate Booklet

Phillips Petroleum Co. announces the availability of a publication entitled "Facts You Should Know About Fertilizer Grade Ammonium Nitrate." The illustrated publication was compiled by the company to "briefly and concisely set forth the basic properties of and pertinent information on ammonium nitrate," the company says. For copies, check No. 6032 on the coupon and mail.

No. 6027—Product Display Stand

Douglas Chemical Co. announces that it will again offer its four-color wire rack display stand to retailers for a compact point-of-purchase

Send me information on the items marked:

- ☐ No. 6025—Spray Mulch Booklet
- ☐ No. 6026—Product Catalog
- ☐ No. 6027—Product Display Stand
- ☐ No. 6028—Fertilizer Spreader
- ☐ No. 6029—Scale Literature
- ☐ No. 6030—Weed Killers Brochure
- ☐ No. 6031—Crab Grass Herbicide
- ☐ No. 6032—Ammonium Nitrate Booklet
- ☐ No. 6033—Static Electricity Neutralizer
- ☐ No. 6034—Tag Handling Machine
- ☐ No. 6035—Pre-Emerge Spray Equipment
- ☐ No. 6036—Fertilizer Injector
- ☐ No. 6037—6-Row Boom Kit
- ☐ No. 6038—Pressure Relief Valve
- ☐ No. 6039—Bulk Fertilizer Booklet
- ☐ No. 6040—Insecticide Guide

(PLEASE PRINT OR TYPE) COUPON NOT VALID AFTER 60 DAYS

NAME .....

COMPANY .....

ADDRESS .....

SLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL

FIRST CLASS PERMIT No. 2 (Sec. 34.9, P. L. & R.) MINNEAPOLIS, MINN.

BUSINESS REPLY ENVELOPE
No postage stamp necessary if mailed in the United States

POSTAGE WILL BE PAID BY—

Croplife

P. O. Box 67

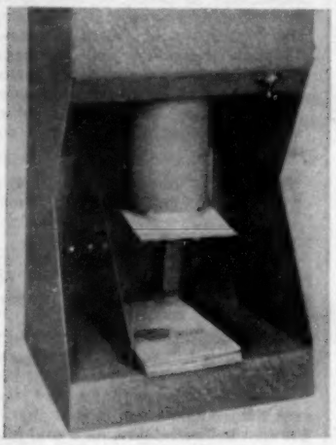
Reader Service Dept. Minneapolis 40, Minn.

piece. The stand, designed to hold a large assortment of Douglas products for use in controlling grain destroying insects and pests, measures 4 ft. high, by 2½ ft. wide. Along with

the rack, a complete point-of-purchase display program is offered, the company says. For complete details check No. 6027 on the coupon and mail.

No. 6034—Tag Handling Machine

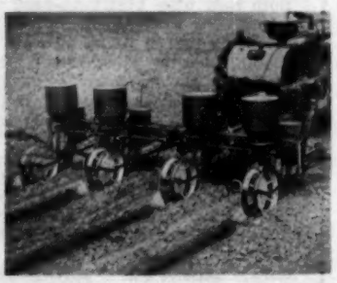
A tag handling machine called Tag-All is being manufactured by K & S Metal Products Co. and distributed to user-dealers or salesmen by Hanson



Sales Co. Tags are placed in the tray at the bottom of the machine and by means of vacuum, a single tag is raised from the stack and held until the operator removes the tag. The portable machine adapts itself to any speed operation, according to the company. For details, check No. 6034 on the coupon and mail.

No. 6035—Pre-emerge Spray Equipment

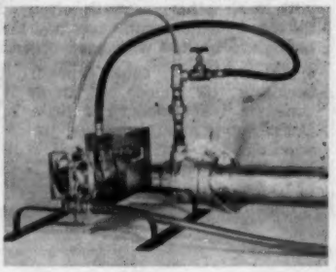
Tryco Manufacturing Co., Inc., announces the availability of a line of pre-emerge spray equipment. Two,



four and six row units are included, as complete sprayers or as kits for adding to spray equipment already owned. Nozzle mount brackets are easily attached to each packer wheel, the company says, and accurate adjustments can be made in any direction to correctly position the special nozzle. A 50 mesh stainless steel line strainer, plus individual nozzle screens protect the tips. For details, check No. 6035 on the coupon and mail.

No. 6036—Fertilizer Injector

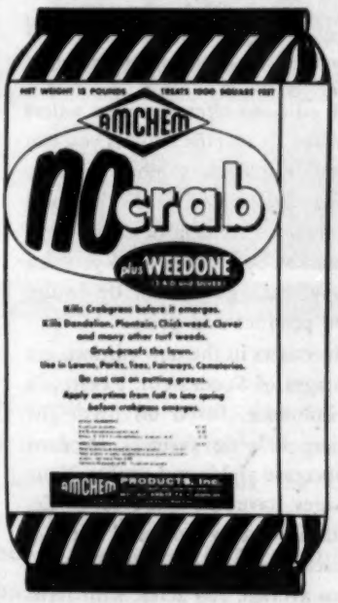
Literature concerning the "Watermatic Injector" for the injection of fertilizer into sprinkler irrigation sys-



tems has been prepared by Arcadia Pump Manufacturing Co. The system is powered by irrigation water pressure. One ¾ in. pipe opening is needed to connect with the injector. The unit is light, compact and easy to operate, the company says. The line of flow of corrosive fertilizers is through clear plastic visible self-flushing check valve. The unit includes a fertilizer plastic suction hose, power and injection hoses with self-flushing sand screen. Fertilizer capacity is from 3 to 45 gal. an hour. For more information, check No. 6036 on the coupon and mail.

No. 6031 Crab Grass Herbicide

Amchem Products, Inc., announces "No-crab," a herbicide designed to prevent crab grass, kill dandelions, plantain, chickweed and other broadleaf weeds, and grub-proof the lawn. According to the company, the product can easily be applied in any lawn spreader. It will sell in an 18 lb. bag, which will treat 1,000 sq. ft., and a



45 lb. bag. For more information, check No. 6031 on the coupon and mail.

TRANSFERRED

STAMFORD, CONN.—Richard M. Sibley has joined the international sales office of Dorr-Oliver, Inc., at Stamford. He has been with D-O for four years, most recently serving as a sales engineer in the D-O Pittsburgh office. In his new position, Mr. Sibley will be responsible for sales of D-O products and services in Venezuela and the Carribean area.

America's Most Complete Line of Liquid Fertilizer Applicators

DEMPSTER

LiquiJector

NO. 600-S

Dempster, developers of the most modern and complete line of Liquid Fertilizer and Anhydrous Ammonia Applicators now offers you even greater versatility with several new models. At left is the new Dempster 600-S Solutions Liquijector—also available in Anhydrous Ammonia models. Mounted parallel on the new Dempster 600 carrier, the applicator tank can be adjusted forward or back for perfect balance. The axle is also adjustable from 72" to 84" and the applicator can be set for high (26") or low (20") clearance. Optional folding wing extensions permit application up to 14' width. Fiberglass, aluminum or black iron tanks and either rigid or double coil spring shanks are available.

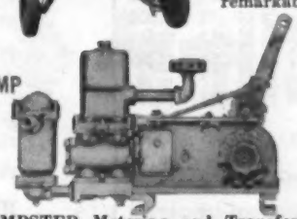
DEMPSTER No. 500-S Solutions Liquijector, mounted on the famous Dempster No. 500 carrier, is a new partner to the No. 500 Anhydrous Ammonia Liquijector. It is extremely versatile since many plowing, discing or fertilizing tools can be attached to the drawbar for simultaneous operation with the fertilizing. This sturdy Dempster 500 Carrier has adjustable wheel spacing from 48" to 80" and is equipped with rubber tired 15" wheels. Clamp-on folding wings give a 14' swath. The high clearance makes it ideal for side dressing row crops.

DEMPSTER NO. 500-S

SPRAY BOOM

SPRAY BOOM APPLICATION is a new feature of the Dempster liquid fertilizing line. The TT 9D Spray Boom, shown at left mounted on a Dempster No. 600 carrier can also be used with applicators on the Dempster No. 500 Carrier. The application is metered with the famous Dempster solutions metering pump, simple to operate and maintain and remarkably accurate.

SN-SC PUMP



CR SOLUTIONS PUMP

DEMPSTER Metering and Transfer Pumps. Super-Accurate, easy to set and adjust, use and maintain Dempster Metering Pumps are the smoothest acting metering devices available for Anhydrous Ammonia and Liquid Solutions. Model B Liquijector Pump for Anhydrous will deliver from 0 to 150 lbs. of N per acre in 200" swaths, more in smaller swaths. Models SC and SN pumps are specifically designed for liquid fertilizer solutions. The SN pump has Ni-Resist castings to handle corrosive materials.

DEMPSTER portable transfer pumps are fast, efficient and compact, pumps for transferring solutions and field or storage tanks to applicators. Model CR, shown, comes complete in four sizes with gasoline engines; Model 5M-CR-2-UD has a universal drive for use with engine or electric motor.

WRITE for full information on the Dempster line of Liquid Fertilizer applicators—tractor mounted, semi-mounted and carrier mounted.

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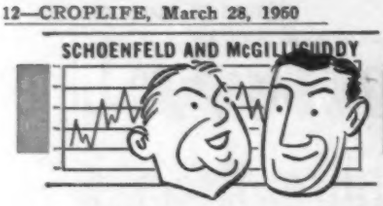

OSCAR & PAT

By AL P. NELSON

It was a dark day and big flakes of snow had started to fall, promising a white blanket of many inches by morning. And when the snow started, trade dropped off at the Schoenfeld & McGillicuddy store, too, as farmers hurried home to get chores done.

Rotund, balding, methodical Oscar sat at his neat desk figuring discounts. As he went over one set of bills after another, he made certain notations on each. Then he would carefully remove the paper clip, put it into a big plastic, green bulldog. If he found a surplus rubber band around a packet of something, he would put that rubber band into a large, former goldfish bowl.

He loved saving things. If he stored things, just like a squirrel, he knew that the day would come when he could use every one of them, and thus hoard whatever cash he had. Saving, storing, conserving were the tenets that governed Oscar's life. He never threw anything away, except the new ideas which his partner Pat was constantly tossing his way.

At this moment, Pat sat at the desk adjacent to Oscar and facing him. Pat's hand were folded behind his head and he stared into space—thinking. Seeing this, Oscar's mind filled with contempt for Pat, his way of life, his thoughts, his philosophy. And to some extent Pat had contempt for Oscar. But they were "hooked" with each other, as both often admitted, just like some wives and husbands are hooked with each other.

"Oscar," Pat said thoughtfully breaking the silence. "I think it's time we went modern a little bit. Let's start monthly sales training meetings for our employees. If we don't, our competition will get ahead of us."

Oscar took a deep breath. He hated this disease which afflicted his partner—getting ideas. "Ach, we can't afford it," he said. "What's the matter with the way we are doink now?

"What's the matter with the way we are doing now?" Pat repeated. "That is the swan song of many businesses that failed. Oscar, the world changes. Look at the way agriculture has changed in the last 15 years."

"Ach, I know one thing that ain't changed," Oscar sneered.

"Don't tell me," Pat said. "I know. Paying bills."

Oscar looked surprised. "McGillicuddy, you are gettink schmarter for a change."

Pat ignored the insult.

"Oscar, anybody in business today has to look ahead," he said earnestly. "Five, 10 maybe 15 years or more ahead, and prepare for the future. You can't grow with your competitors, if you haven't got employees who are trained in selling, in handling and pleasing customers, in being alert to display, advertising and other possibilities. We need their help to aid us in getting more business."

"They help us too much now," Oscar snapped. "They help themselves to too much of our money effery Saturday. They show up before noon to get their checks. They standt aroundt and choke with farmers. They spent too much time in the toilets smokink and readink. They sit down on fertilizer sacks insteadt of grabbink a broom and sweepink the floor where schtuff has spilled. You want us to train them to do more of that schtuff?"

"Of course not, Oscar," replied Pat a little irritably. "Through the right type of sales training, you teach employees gradually what are the best ways of doing business. Through repetition of business truths, you make employees more alert, so that they are worth more to you. Sales training has done a lot for other firms. It can do much for us."

Oscar's eyes narrowed, and a bright critical light gleamed from them. "Ach, that sales trainink, that don't pay. I know!"

Now it was Pat's turn to be surprised. "Sales training? When did you take it? Not since you've been my partner."

"I haf been givink sales training!" Oscar snorted. "And it don't do any goot. I haf been tryink to pound into your headt for years that a goot business man collects the money that is due him before he goes oudt and puts lots more on the books. I repeat it. But does it do any goot? Ach, nottink."

Pat's face flushed and his fists clenched. "You know I collect when I have the time," he said.

Oscar's head and bull neck thrust forward. "Don't kidt yourself, Irisher. If I didn't keep after you, you wouldt neffer go oudt and collect. You wouldt schtick aroundt at chamber of commerce meetinks all afternoon, or visit at farm auctions, and who wouldt get the money to pay salaries and bills effery Saturday."

Both men were breathing hard at this moment and staring at each other like a pair of ruffled roosters.

Plump, ulcerish Tillie Mason, the bookkeeper got up. "Another argument. Well, you know my contract. When you argue, I go out for coffee. When you're finished I come back."

Neither man heard it. "You are the most bullheaded, stubborn person I have ever met. Your business ideas are outdated. They go back to the celluloid collar age, the flivver age."

Oscar sneered. "Maybe," he snapped. "Ach, but what difference does it make? I got it," and he tapped his pocketbook." And you ain't. Who's oldt fashioned in the gelt division?"

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24 State & Regional Editions of Successful Farming			
Edition	States	Circulation*	B&W Pg. Rate
1	Iowa, Illinois, Indiana, Nebraska, Minnesota, Wisconsin	608,297	$3,955
2	Illinois, Indiana	218,956	$1,860
3	Iowa	128,670	$1,160
4	Minnesota	116,748	$1,050
5	Nebraska	67,646	$ 625
6	North Dakota, South Dakota	82,225	$ 760
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9	Iowa, Minnesota	245,418	$2,085
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11	Minnesota, Wisconsin	193,025	$1,690
12	Minnesota, North Dakota, South Dakota	198,973	$1,740
13	North Dakota, South Dakota, Nebraska	149,871	$1,350
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SERVICE

(Continued from page 9)

quarters, and will eventually build storage facilities on it," he says.

The building is equipped with 14 bulk bins, and formulas are stored separately as potash, ammonium nitrate, and phosphate. "If the customer wants the materials blended, we will render this service without charge and he pays for the ingredients only.

"In 1959 we broadcast 1,170 tons of bulk fertilizer on 10,500 acres, at a charge of 50¢ per acre," Mr. Sinclair says. The volume spread in the previous year was greater, due to weather conditions—the wet fall in 1959 reducing the service materially.

Bulk material purchased by farmers is applied by them, mostly with corn planter attachments. The hill drop method is coming back, Mr. Sinclair points out. "I would not plant corn without using the hill drop system," he says, "the yields are good.

"The method is often used in combination with broadcasting, we are told, especially if heavy rates are needed."

Broadcasting is done largely in the fall after the corn and beans are off, and in the spring before plowing. The method is important where corn follows corn, Mr. Sinclair notes, adding that top dressing alfalfa is a year round job.

Bag fertilizer is largely applied by using hill drop attachments.

Liquid fertilizer handled by the firm is principally 41% nitrogen, although a limited number of liquid complete formulations are used. This practice may increase.

Equipment used in applying liquid materials includes applicators. A charge of 75¢ per acre is made when liquid fertilizer is applied.

"We also have three spreader boxes, for dry materials valued at $2,000 each, mounted on trucks. The life of a spreader box should be about 6 years," Mr. Sinclair says, provided it is kept in repair. "The spreader operator owns the truck and is under contract to be responsible for the box, which is company property. We collect the spreading charges and pay the operator."

Spreading, he says, is a sales promotion that we must furnish if we want to get the tonnage out.

Fertilizers applied by farmers are delivered to them without charge.

Sales helps, according to Mr. Sinclair, include newspaper advertising at a cost of $40 per month, and direct mail advertising. The cost of the latter is defrayed by the company's suppliers.

In promotions, the management has also gone in for fertilizer meetings, using university experts.

"This year," he says, "we plan to change our system so as to help in the financing of crop shows, and sending our men to adult farmer classes. We prefer to help promote meetings that are arranged by other agencies."

A good educational program has an important place in the fertilizer business, says Mr. Sinclair. "If a man is planning to be in the farm supply game, he should cooperate with educational institutions. There is no such thing as going it alone. The advantage in our system is that everybody tells the same story; farmers look up to educational institutions and it is smart for us to work with them.

"We are, in a sense, extension people. Our store is a source of information, the same information that the farmer gets from the extension people."

An outstanding piece of educational work is the assistance given by the firm on a 14 acre corn fertilizer plot conducted by the high school agriculture department. "We furnish the fertilizer, the students do the work, and the instructors interpret the results. We need the information, and the project gets us more publicity than if we did it ourselves. We help them and they help us.

"We have a busy time keeping ourselves educated as well as educating others, things are definitely going at a fast pace and we must keep up to date."

A combination of lines is necessary in the farm supply business, Mr. Sinclair emphasizes. The feed business helps the fertilizer and chemical business. The combination helps in keeping men employed the year round and balances the activities over the 12 months.

"We think our credit policy is successful," the manager says. The credit losses are much less than 1% annually.

It operates like this: a 5% discount is allowed on all payments made within 30 days. Those who cannot pay have a working agreement with the banks or the P.C.A. Under this plan the customer furnishes a financial statement, and if this is approved by the lending agency, he also signs an open end note. At the end of the 30 day period they take the customer's sales slips to the lender, and get the cash, the customer getting his 5% discount. In almost every case the customer receives more in his discount than the interest charges amount to.

"We must have a credit gimmick and this one is sound," he says.

As of now everything is current with the exception of about a dozen accounts.

The credit statements are stored in a permanent file, and those who do not furnish such statements are advised to get their cash elsewhere. It is important to have the customer's confidence in getting the credit information, Mr. Sinclair warns. "However the credit information is only a means to an end, what we want is the cash."

On soil testing the company will assist farmers in securing samples and mail them to the state soil testing laboratory. "We pay for the first two samples tested, but do not require that the fertilizer be purchased from us; 90% of them do, however," he says. About 50% of the customers have their soil tested, but the practice is growing, Mr. Sinclair states.

Summing up, Mr. Sinclair said, "We like to think that we are an asset to the community and draw trade for others as well as for ourselves. We cannot do business all by ourselves."

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FARM SERVICE DATA

EXTENSION SERVICE REPORTS

Legumes deserve a square meal of nutrients in the fall to help them produce money-making hay and pasture yields and improve the soil, reports the Midwest division of the National Plant Food Institute, in citing statements by college agronomists.

James A. Porter, Michigan State University soils scientist, points out that top-dressing legume hay and pasture crops with needed phosphate-potash fertilizer, pays three ways: (1) It boosts hay tonnage per acre; (2) it improves hay quality; (3) it conditions the soil for better yields of corn, grain and other crops that follow in the rotation.

Fertilizer applications should be made on the basis of soil tests, Mr. Porter says. A bulk spread truck, grain drill or fertilizer drill is good for adding the fertilizer. It is important, however, to spread the plant food evenly.

Legume and grass roots feed over a wide range and will pick up the surface-applied nutrients, Mr. Porter says.

Marshall Christy, University of Missouri extension soils specialist, emphasizes the need for replacing nutrients taken off in the form of pasture or hay.

"If legume-grass mixtures are to continue producing well, they must be top-dressed in the fall or early spring," he says. "Soil tests will provide the best guide for needed nutrients."

Mr. Christy says regular top-dressing keeps weeds at a minimum, boosts total production and extends the life of the legume-grass stand.

★

According to Ed Williamson, soils specialist for the South Dakota State Agricultural Extension Service, a study in Missouri during drouth conditions of 1952 and 1953 indicated fertilized corn used 16 in. of water to produce 79 bu. per acre, while unfertilized plots took 14 in. of water from the soil and produced only 18 bu. per acre. The fertilized corn produced 5 bu. for each inch of water used while the unfertilized corn produced only 1.3 bu. for each inch of water used.

Mr. Williamson said this happens because fertilized crops develop better root systems and can make better use of the water available. In Iowa, fertilized corn roots were found burrowing down 7 ft. to find moisture. Unfertilized roots only went down 5 ft.

A study in Wisconsin also shows how nitrogen helps oats and corn take advantage of available water. When soil was low in nitrogen it produced only 2.7 bu. of corn and 1.8 bu. of oats on an inch of water. When nitrogen was adequate the same soil produced 3.6 bu. of corn and 4 bu. of oats per inch of water.

A study in Davison County, South Dakota, in 1954 indicates that it is also impossible for South Dakota oat varieties to take advantage of moisture unless plant food is also available. A crop variety plot located in a field of Andrew oats compared seven oat varieties including Andrew. The field yielded 26.8 bu. per acre; the unfertilized plot of Andrew oats yielded 28.7, but a well fertilized plot of the same variety averaged 70 bu. per acre. All seven oat varieties on the fertilized ground yielded an average of 86 bu. per acre. The unfertilized plots yielded an average of 26.8 bu. Fertilizer used: 60 lb. of nitrogen and 40 lb. of phosphate. Most of the farmers complained that the moisture did not arrive at the right time that year to raise an oat crop.

★

Chemicals are gradually replacing plowing, grubbing and other laborious methods of controlling brush and weeds in many South Texas areas.

Ranchers who kept milkweeds under control by mowing have found that aerial spraying is far more effective and cheaper. Roger Williams sprayed 3,000 acres of weed infested rangeland with good results.

He used a half pound each of 2,4-D low volatile ester and 2,4,5-T mixed with 1 gal. of diesel oil and 4 gal. of water to the acre. A good kill resulted and no seed crop matured last fall. In addition to milkweed, other range pests, such as sand sunflower, were also killed.

Such chemicals must be used properly, according to D. F. Bredthauer, county agricultural agent. He says that because of scattered crops in the area, the aerial application should be made before crops are planted or after harvest time.

All herbicides must be applied through permits from the state department of agriculture.

★

It pays off in terms of increased forage yield and protein content to fertilize irrigated grass pasture, according to results of a study outlined by D. E. Baldridge of Montana State College Agricultural Experiment Station, Huntley, Mont. Mr. Baldridge's report, which has just been published, was reviewed by the Western Regional Office of the National Plant Food Institute.

"Forage yield increased as the rate of nitrogen applied increased, and the average seasonal crude protein was stepped up from 14.1% to 23% by increasing the rate of nitrogen from 0 to 800 lb. per acre," Mr. Baldridge states in his report.

Mr. Baldridge was commenting on a study initiated in 1956 with Kentucky bluegrass and orchard grass. Nitrogen fertilizer was applied at seven rates from 0 to 800 lb. of available nitrogen per acre, and these rates were compared as biennial, spring, fall and split applications.

According to the report, fall applications were found to give a greater yield than spring applications at rates above 200 lb. However, the split method of application produced the highest dry matter yields, with the first 200 lb. of nitrogen applied being the most efficient. With regard to protein content, growth produced in the early part of the season, May and June, had the highest amount of protein. Protein content of the forage produced was determined by chemical analyses.

An interesting sidelight of the study was that yields were increased from 1.10 to 5.63 tons of dry forage per acre without an increase in water consumption. The amount of water used was measured in three treatments in 1957.

"An economic analysis of the yield data indicated that the 400 lb. per acre application rate of nitrogen produced the greatest net return, even though lower rates gave a good return per dollar invested in fertilizer," Mr. Baldridge stated.

Farm Income Rises

The average of realized net income per farm in New Mexico rose 3% in 1959, according to W. Y. Fowler, economist with the New Mexico State University Extension Service. The figure of $2,812 is the realized net income figure for last year compared to $2,730 for 1958. Mr. Fowler says that these and other figures of interest to the state's farmers and ranchers were released in USDA's February "Farm Income Situation."

CATALOG AVAILABLE

MIDLAND, MICH.—The availability of the 1960 edition of its research chemicals catalog has been announced by the Dow Chemical Co. The 40-page compilation lists the names, formulas, and typical properties of some 200 chemicals available in sample quantities. Copies may be obtained by writing Dow's Technical Service and Development Department.

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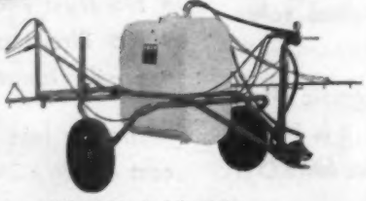

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OVER THE COUNTER

(Continued from page 9)

lizer the next year? The soil test is the best guide available for determining nutrient needs.

HOW MUCH? A soil test is the best bet here. But a knowledge of local conditions and experiences of others in using fertilizer will go a long way in advising the right rates.

The fertilizer sacks designed for the "specialty trade" will usually list suggested rates. These are usually close to right for most areas. Rates used by local farmers on field crops can also serve as a guide.

Publications of commercial concerns as well as those distributed by the agricultural colleges will often list suggested rates of fertilization.

WHEN TO APPLY? This one depends greatly on local conditions. One time that is usually safe to apply fertilizer is just prior to the time the plants begin to grow in the spring. For annual plants, prior to or at the time of planting or transplanting is usually satisfactory. Perennial plants usually should be allowed to become established before they are fertilized.

WHERE, HOW TO APPLY? Your local agricultural college is the best source for specific information. The principle involved here is to apply the fertilizer so that the plant roots can reach it easily.

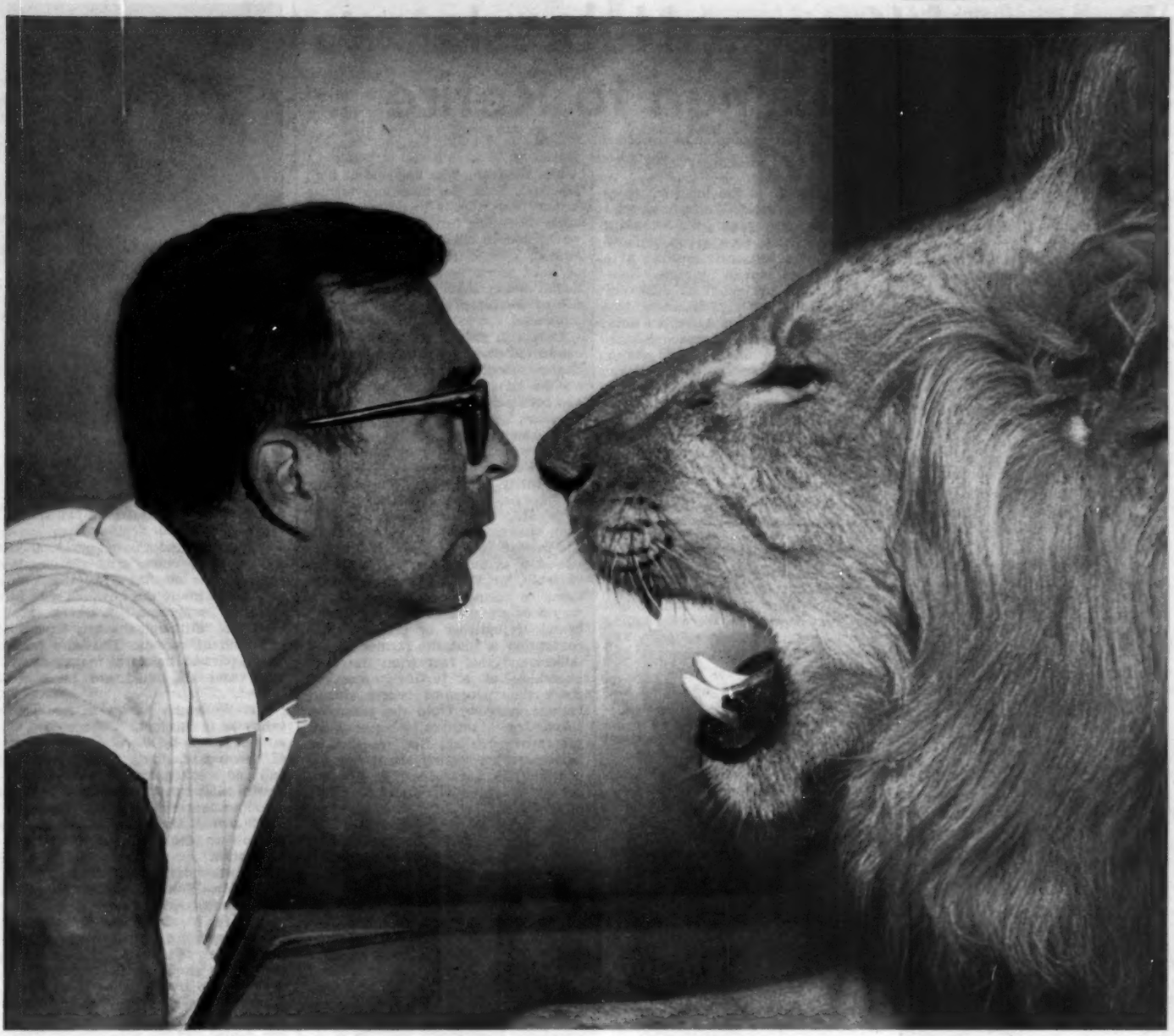
One possibility on applying fertilizer is to broadcast or spread it out evenly over the ground and incorporate it into the soil.

The fertilizer might be more beneficial if it is applied in a band two to three inches deep and two or three inches to the side of flower and vegetable seed. For transplants, this same method works well. For sets such as onions, two inches below the sets is good.

For established shrubs and grasses, application on top of the ground and watering into the soil is about the only method.

Some words of precaution—fertilizer is a salt. When too much is used too close to the seed or the transplant or on the grass, damage can result. Fertilizer should be kept within reach of the plant roots, but at a safe distance. On lawns, fertilizer should be applied when the grass is dry and soaked in with a light water application.

You can't answer all the questions the home owner has but any word of good advice you can pass on will help to make him a repeat customer.



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You don't have to look this close to see the advantages of selling Lion E-2 Ammonium Nitrate. The first thing you'll notice is that Lion gives you a definite storage advantage because of its super-density. An 80-lb. bag of Lion E-2 is 20 to 25% smaller than an 80-lb. bag of any other brand. Thus, the storage space you save with Lion E-2 can be used for 20 to 25% larger inventories to make more profit.

You feel the second advantage when you pick up a bag of Lion E-2. The bags are coated with Syton®, a special Monsanto anti-slip agent that lets you and your customers get a better grip for faster, safer handling.

Lion E-2 gives your customers another big advantage, too. Because Lion E-2 is super-dense, farmers can load more in their spreaders . . . actually eliminate one out of every five refill stops! And, Lion E-2 is guaranteed at least 33.5% vital nitrogen for maximum yields.

If you want the "lion's share" of ammonium nitrate sales in your area, take a close look at Lion E-2. You'll like what you see! Want more information? Just roar! LION E-2, Monsanto Chemical Company, St. Louis 66, Missouri.

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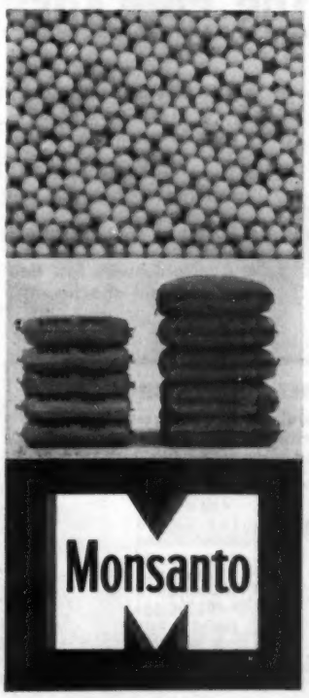

LION E-2 is the only ammonium nitrate on the market that can save 20 to 25% of your valuable storage space. Because each Lion E-2 prill contains less useless air, you can stack *five* 80-lb. bags of Lion E-2 in the same space previously taken up by just *four* 80-lb. bags of any other brand. (Lion E-2 is a good deal for your customers, too. Because of E-2's super-density, farmers can eliminate one out of every five refill stops.)

'Dean' of Kansas, Nebraska Fertilizer Salesmen to Retire

By EMMET J. HOFFMAN
Croplife Merchandising Editor

Fertilizer salesmen in Kansas and Nebraska generally consider Judd Wolfram their "dean." Some of them go so far as to call him a "legend." However legendary, Judd Wolfram has achieved many extraordinary accomplishments in a 25-year career as a fertilizer salesman.

At 68, Mr. Wolfram is retiring this spring. But his accomplishments are certain to leave their impact for some time on the fertilizer industry in Kansas and Nebraska. Certain to be remembered for a long time, too, are his candid, straight-from-the-heart sayings, his enthusiastic approach to life, his zest for doing little courtesies, and his devotion to friends who are legion and include industry associates, university presidents, corporation executives and hundreds of fertilizer dealers.

"There are a handful of dealers around today that I first called on 25 years ago. I'm still as welcome by them today as I was then. Of this I'm very proud," the sincere, straight-talking Mr. Wolfram says.

The career of Mr. Wolfram is not an ordinary one. It is filled with fertilizer industry "firsts." Generally he is considered to be the first to have:

1. Sold the first pound of high analysis fertilizer in Kansas.

2. Conducted the first fertilizer dealer school in Kansas in 1940.

3. Sold the first trainload of fertilizer in the Plains area. (Dr. Floyd Smith, Kansas State University agronomist, called this transaction a "million dollar train" in respect to increased crop yields. The train consisted of 84 cars or 2,400 tons of ammonium nitrate. The movement was made three years ago.)

4. Pioneered fertilizer use in Kansas.

While devoted to serving the fertilizer industry and all research that backs it, Mr. Wolfram possesses a many-faceted personality that has been the delight and entertainment of hundreds of acquaintances. He has the knack of unwittingly inviting a good-natured prank to be played on him, then moments later be rewarded with an endearing gift from appreciative friends.

An example is the incident which occurred when Mr. Wolfram and his employer for 25 years—the Anaconda Co.—were hosts to a group of fertilizer dealers and their families at a scenic resort spot in Montana. Coming back to his cabin at dusk one day, he found a huge live bear tied to the door knob of his cabin door. On the same evening, during a short fertilizer education program, one of the dealers broke in to hand Mr. Wolfram a $72 purse of silver dollars. It was the dealers' way of expressing their appreciation and admiration. It is this type of reward that makes Mr. Wolfram most proud —and most happy about his varied and interesting career.

"In one day last year I sold more fertilizer to Kansas dealers than I did in the years 1930-31 put together," says Mr. Wolfram.

"I'd like to forget the first five years of my fertilizer sales experience. You know, that's when we had the great depression. We were killing pigs to get rid of surplus pork. Depression days weren't pleasant and fertilizer sales weren't good."

Born in Wisconsin where he still owns a home at Fort Atkinson, Mr. Wolfram was the first member of his family to attend college. He received a B.S. degree from the University of Wisconsin in 1918. A University of Wisconsin stalwart, agronomist C. J. Chapman, remains one of his closest friends. Following graduation, Mr. Wolfram went into extension work in West Virginia, became a county agent and later directed the 4-H Club camp in Kansas.

For 30 years home has been Manhattan, Kansas, in the shadows of Kansas State University, an institution he backs and supports with the energy of a sophomore. He misses few football and basketball games and many is the dealer who has seen K-State athletes perform through the courtesy of Judd Wolfram who annually buys a block of tickets. And, traditionally, his apartment (he is a bachelor) is the headquarters for "quarterbacks" who drop in after games to discuss the heroes, key plays and to have a cup of coffee.

Mr. Wolfram, who has sold as high as 10,000 tons of ammonium nitrate in one year, admits to no secret formula for selling fertilizer except hard work, honest dealings, no price cuts and an intense desire to serve. Part of hard work no doubt consists of dealer and consumer education on the use of fertilizer and in this he has pioneered.

It was in 1940 when Mr. Wolfram conducted the first formal fertilizer dealer school in Kansas. Education on the use of fertilizer by farmers has been part of his program for the 25 years he has been in the Kansas-Nebraska area. For 25 years also he has operated a booth at the Kansas State Fair, Hutchinson.

As many as 25 dealer meetings for farmers have been staged in one year with Mr. Wolfram's assistance. In such situations, the dealer sends out the invitations, provides the meeting site and arranges for the food. Invariably, Mr. Wolfram's opening comment to farmers would be, "In no way does any college recommend any brand of fertilizer or product." His contention is that the farmer should understand this fact from the very beginning of a fertilizer meeting. Since such programs nearly always include someone from the extension service or a university agronomist, the farmer realizes that research or demonstration reports are purely educational in nature and do not endorse one particular brand or grade of fertilizer.

In recent years, Dr. Floyd W. Smith, Kansas State agronomist, and E. A. Cleavinger, extension specialist, have appeared on numerous dealer programs. A. L. Clapp, K-State agronomist and wheat fertility expert, in years past was also frequently on such programs.

Judd Wolfram holds warm admiration for two others who have labored long in behalf of fertilizer and soils research and education—R. I. Throckmorten, former head of the K-State agronomy department, and Dr. W. A. Albrecht, University of Missouri, soils department chief. As one friend put it, by way of exaggeration, "With Judd, 'Throck' rates first and God second."

Mr. Wolfram has some advice for dealers who want to stage a fertilizer education meeting for farmers. He suggests a 1½ hour to two hour night meeting.

Show a movie travelogue, he suggests, perhaps your own vacation movies. "In a vote of farmers one time, the audience preferred travelogues over any other type of movie," says Mr. Wolfram.

Colored movies showing crop yields based on college data are excellent.

Next, Mr. Wolfram states, discuss essential plant foods, using basic information. "I speak the farmer's language. For example, I'll say 'There aint no such thing as 100% pure nitrogen. This is a gas and you can't spread that on the ground.' Farmers understand ain't but they don't always understand isn't," says Mr. Wolfram. Then, an explanation is made of N, P, K deficiencies and suggestions are made as to what farmers can do in the way of proper fertilization.

Judd Wolfram

A question-and-answer period then follows, and coffee and doughnuts conclude the evening's program.

"Always invite the farmer's wife to fertilizer programs," warns Mr. Wolfram, "although she may have no intention of coming. The wife feels she is part of the farm management team and she must not be overlooked."

Mr. Wolfram's advice to fertilizer salesmen is succinct. "College data is authenticated by three to five years of research findings. Use this data and you won't go wrong." As a successful salesman for Anaconda and as a jobber representative for Spencer, Phillips and Monsanto, it would be difficult to disprove Mr. Wolfram's contention.

The crowning compliment to his work, Mr. Wolfram proudly admits, came recently at a dinner he had arranged for his dealers. But the compliment was not part of his program plan. As a prelude to retirement, he wanted to show his appreciation to dealers who had done business with him for years. Nearly 200 guests came to Manhattan for the dinner, one dealer and his wife coming from nearly 300 miles. But the guests surprised Mr. Wolfram.

Instead of Mr. Wolfram feting his guests, the guests presented a rehearsed program which was highlighted by words of tribute from Dr. James McCain, president of Kansas State University. As a material recognition, Mr. Wolfram was given a complete set of golf equipment and two floor lamps. Not given to speechmaking, the self-effacing Mr. Wolfram told the audience that "it was hard to understand how dealers would tolerate anyone for 25 years in the same territory."

The "Wolfram Log"—an annual Christmas letter to 700 friends—explained last December, "how futile words are" to express appreciation for such recognition.

The last Wolfram Log ends fittingly when it states, "The latch string at 1615 Anderson St., Manhattan, is always out. If you don't believe it, test it."

Faster, More Uniform Lime and Fertilizer Spreading With a

NEW LEADER L-19S SPREADER

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Quality products since 1850

SOYBEANS

(Continued from page 1)

$5,000 a year for a three-year period, providing that an additional $10,000 a year be pledged by members of the fertilizer industry.

To raise the necessary money, the two groups have mailed a letter to fertilizer interests in the major soybean producing states over the signature of Dr. J. B. Peterson, head of the agronomy department at Purdue University and chairman of the Subcommittee on Physiology and Nutrition of the Soybean, National Soybean Crop Improvement Council.

Industry interests are asked to provide grants in the range of $250 to $500 annually for a period of three years. The money may be contributed in one sum or in three annual payments. Checks should be made out to J. W. Calland, managing director, National Soybean Crop Improvement Council, Decatur, Ind.

If the required money is raised, research projects will be solicited by the subcommittee. This committee will also act as a screening and coordinating committee, and will review research while it is in progress.

Members of this committee, headed by Dr. Peterson, are: M. B. Russell, head of the agronomy department, University of Illinois; H. R. Rogers, head of agronomy at University of Alabama; W. H. Pierre, head of agronomy, Iowa State University; H. W. Johnson, U.S. Department of Agriculture; W. L. Nelson, American Potash Institute, and J. W. Calland.

The Soybean Work Group of NPFI, working with the subcommittee, consists of W. L. Nelson, American Potash Institute, chairman; Richard Balser, Spencer Chemical Co.; L. Glendenning, Federal Chemical Co.; J. P. Menn, U.S. Industrial Chemical Co.; George Scarseth, Farm Bureau Research Council; Victor Sheldon, Olin Mathieson Chemical Corp., and R. P. Thomas, International Minerals & Chemical Corp., vice chairman.

Expands Research Center

CLEVELAND, OHIO—Directors of Ferro Corp., Cleveland, approved a $255,000 expansion of the firm's research center facilities. The expansion will provide an additional 9,600 sq. ft. of office and laboratory space, and will greatly increase the center's research capabilities.

In a brief ceremony, Robert A. Weaver, Ferro's board chairman, was presented with a diamond pin for his 40 years of service by Clinton M. Horn, the firm's corporate secretary who, along with Mr. Weaver, helped found the company in 1919.

Chinch Bug Control

NEW YORK—Two years of research at the Florida Agricultural Experiment Station indicate that Trithion® will give satisfactory control of chinch bugs in St. Augustine grass.

The pesticide, developed by Stauffer Chemical Co., is reported to control chinch bugs in parts of Florida where present pesticides are reported to have little effect, for example, in the southern part of the state.

WINS CONTEST

LEXINGTON, MISS. — William Spell has been named state winner in the McCurdy Corn Growing Demonstration sponsored by the Magee Cooperative, Sawan, Inc., of Columbus, and the State Department of Education. Mr. Spell produced a yield of 166 bu. of corn per acre. He and his vo-ag teacher, O. A. Cleveland, were both presented $100 watches for efficiency in production. Second place winner in the corn demonstration contest was Junior May of the Mendenhall FFA chapter with J. N. Rankin as vo-ag teacher.

Mid-South Farmers Await Weather Break

MEMPHIS, TENN. — Mid-South farmers, fully a month behind last year's farming operations, are standing by with breaking plows and fertilizer rigs poised for the first break in the weather.

Extension Service officials in Arkansas, Mississippi, Tennessee and Missouri report that fields are still too wet and the weather too cold to do any field work on pasture fertilization.

In Mississippi, officials add that winter grazing is almost non-existent and stored feed supplies are running short. Some farmers are reporting livestock death losses and cattle generally are losing flesh in most areas. Most farmers are planning to begin breaking and fertilizing as soon as weather permits.

Arkansas and Missouri Extension Service reporters echoed the Mississippi report and said that farmers were busy getting their equipment in shape for a grand effort to make up for lost time when fields dry out sufficiently.

H. W. Luck, assistant agronomist at Jackson, Tenn., says that wet fields have kept West Tennessee farmers in the barnyard this spring. However, he says that many have been busy obtaining soil tests for fertilizer recommendations and seeking information on how to work chemical weed control into their farming operations.

PLANT NEARS COMPLETION

AUMSVILLE, ORE.—Swift & Co.'s bulk fertilizer plant is expected to be completed here in about a month, reports Charles N. Irvine, the firm's Salem representative. The $35,000 building, 50 by 100 ft., will load fertilizer from bins as a convenience and economy for area farmers and will employ two or three men.

Appointed Sales Manager

HAGERSTOWN, MD. — Robert B. Troxel has been appointed sales manager for the home and garden division of Central Chemical Corp., Hagerstown, manufacturer of fertilizers, insecticides and chemicals.

Robert B. Troxel

Mr. Troxel has been in fertilizer-chemical sales since World War II. Previously he served as botanist for the Commonwealth of Pennsylvania.

PROFESSOR DIES

LEXINGTON, KY.—Leon A. Vennes, 60, associate professor of agricultural economics at the University of Kentucky, died at his home recently.

"And when you need nitrogen you need ViTREA"

"Most crops take a lot of nitrogen out of the soil. That's why we replace it every year with John Deere VITREA. There's 45% nitrogen in VITREA . . . much more concentrated than other types of bagged nitrogen fertilizer . . . so it's easier to handle . . . saves time for other work during the busy season. Vitrea won't corrode our equipment either. And it feeds the crop as it grows . . . resists leaching. Remember, son, a good farmer uses his time wisely . . . takes care of his equipment . . . . follows soil test recommendations . . . and when extra nitrogen is needed, he uses VITREA."

JOHN DEERE

Grand River Chemical Division of
DEERE & COMPANY
PRYOR, OKLAHOMA

Ads like this are appearing in the following publications to help you sell VITREA:

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KANSAS FARMER
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ORDER NOW.
PROMPT DELIVERIES!

"I'm sold on your Sul-Po-Mag Program . . ."

George Lippincott, president,
Dorchester Fertilizer Co.,
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". . . should really help sales!"

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Michiana Chemical Co.
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Many manufacturers count on this Sul-Po-Mag® program to boost fertilizer sales and profits

"SPM program has paid off for us where it really counts . . . in increased fertilizer sales"

T. F. Bridgers, president of
the Farmers' Cotton Oil Company,
Wilson, N. C.

". . . has helped us move fertilizer"

John C. Crissey, division manager
Soil Building Service, GLF EXCHANGE,
Ithaca, N. Y.

"Yields of tobacco UP . . . as much as 60 to 101 pounds an acre! Those are results of actual experiment station tests made with complete tobacco fertilizer containing Sul-Po-Mag" — with these words a radio announcer in the Southeast begins a 1-minute Sul-Po-Mag spot announcement. Thousands of growers in the area will hear his profit-making message. Through it they will seek out their local fertilizer manufacturers who subscribe to the SPM program. Radio . . . just one of the SPM *super-salesmen.*

IMC's extensive Sul-Po-Mag program is educational in scope. While selling the need for long-lasting magnesium from SPM in crops and soils, it is also selling YOUR fertilizer. This is a big program and another reason why IMC puts these top "salesmen" on your team . . . without cost to you, of course.

A full schedule of IMC agricultural magazine ads — national and regional — as well as state newspapers work hard for you . . . seven days a week. Various promotional materials are available for you to use in pinpointing magnesium fertilization problems of the major crops in your area. And they carry your company imprint.

See the adjoining page for details on International Minerals' SPM program. Then contact your IMC representative for the complete story.

The Sul-Po-Mag story is a lively topic of conversation wherever growers meet. One of the reasons is IMC's national and regional SPM advertising program. In 1959, Sul-Po-Mag advertising reached 2,567,000 farmers, growers and influence groups in magazines alone.

Consumer crop packages are for you to use on the local level. This potato crop package is one of eight complete crop packages that provide you with jumbo postcards, folders, newspapers, and magazine ad mats, news releases and radio announcements promoting Sul-Po-Mag use on individual crops.

Colorful and forceful SPM posters are available for you and your dealers. When imprinted with your company name and address, they tell growers you have Sul-Po-Mag ready to serve their crop needs. These display signs are full color and imprinted free of charge.

The Sulphate Bulletin features the latest news and research reports on SPM, along with useful information on sulphate of potash. Every 3 months more than 30,000 bulletins are sent to fertilizer manufacturers, county agents, vo-ag teachers, soil conservationists and growers.

Sul-Po-Mag mailers and envelope stuffers are effective for *repeat sales.* You can send them out with monthly billings and keep telling the SPM story. Many manufacturers have earned extra sales with this quick-fact form of direct selling.

This seal is available as production proofs for printing on the bag. It will enhance your bag design as well as tie you in with the total SPM program. Also the seal comes as bag tags or stickers. Three forms of the seal are provided to meet your state requirements.

IMC's Sul-Po-Mag radio programs cover magnesium needs through 1-minute spot commercials. Content is terse, with factual and helpful tips to growers. This highly important sales medium stimulates impulse buying during the fertilizer season.

The Magnesium booklet is a vital part of the Sul-Po-Mag program. It illustrates the importance of magnesium for high crop quality and top yields. IMC has answered thousands of questions on recognizing magnesium deficiencies in fruit, vegetables, field crops.

The imprinting service is the backbone of the SPM program. Your company name and address on a direct mailer or full-color wall chart has all the authority of a direct contact with a customer. Your name and location are important parts of your total advertising effort.

Products* for growth IMC *Trademark

AGRICULTURAL CHEMICALS DIVISION

INTERNATIONAL MINERALS & CHEMICAL CORPORATION

Administrative Center: Skokie, Illinois

15-60

POTASH

(Continued from page 1)

953 tons K_2O, 11,977 tons of sulphate of potash containing 6,051 tons K_2O, and 9,110 tons of manure salts containing 2,125 tons K_2O.

In the U.S., agricultural potash was delivered in 46 states and the District of Columbia. Illinois with more than 200,000 tons K_2O was the leading state followed in order by Indiana, Ohio and Georgia, each taking more than 150,000 tons K_2O during the year. Due to shipments across state lines, consumption does not necessarily correspond to deliveries within a state.

During the fourth quarter of 1959, deliveries for agricultural purposes were 615,801 tons K_2O, in Continental United States, 43,055 tons in Canada, 3,918 tons in Cuba, 6,998 tons in Puerto Rico and 4,090 tons in Hawaii, making a total of 673,862 tons K_2O, an increase of 1% over 1958. These figures include imports from Europe July through December.

Exports of potash to other countries during the fourth quarter were 106,379 tons K_2O, an increase of 59,284 tons or 126% over 1958. Deliveries of potash for non-agricultural purposes were 39,386 tons K_2O, an increase of 5%. Total deliveries for the fourth quarter were 1,399,081 tons of salts containing an equivalent of 819,627 tons K_2O, an increase of over 9% in salts and K_2O over 1958.

In addition to the regularly reported deliveries on the quarterly basis, information from governmental and other sources indicates that during July through December, 1959, there were imports of European potash into the U.S., Canada, Cuba and Puerto Rico of 129,344 tons K_2O as muriate of potash and 216,319 tons K_2O as sulphate of potash. These figures are included in the deliveries for the fourth quarter.

Deliveries of Agricultural Potash Salts—1959

In Tons of 2,000 lb. K_2O

Point of delivery	Muriate: Standard	Muriate: Granular	Manure salts	Sulphates	Total
Total U. S.	1,122,932.89	909,486.19	130.01	143,032.13	2,175,581.22
(Imports)	(180,087.96)	.....	....	(36,541.71)	(216,629.67)
Canada	58,162.96	32,912.88	....	13,335.34	96,411.18
(European imports)	(24,335.40)	.....	....	(5,105.50)	(29,440.90)
Cuba	5,904.39	483.00	....	2,912.01	9,299.40
(Imports)	(3,334.00)	.....	....	(1,099.00)	(4,433.00)
Hawaii	4,627.00	15,393.00	....	2,181.50	22,201.50
Puerto Rico	16,056.05	7,434.01	....	1,896.84	25,386.90
(Imports)	(16,056.05)	.....	....	(1,442.39)	(17,498.44)
Total Inst. Territories	1,199,683.29	965,709.08	130.01	163,357.82	2,328,880.20
Other exports	272,937.59	34,202.13	....	4,219.11	311,357.83
Total agricultural	1,472,620.88	999,911.21	130.01	167,576.93	2,640,238.03
(Imports)	(223,813.41)	.....	....	(44,188.60)	268,002.01)

NOTE: Import figures given in parentheses are included in all totals. Not included in the import figures are 8,632.60 tons K_2O as muriate of potash imported from Canada into the U.S. They are included in the state and total figures.

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When You Use Xylene-Base ESPESOL 5 !

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- Narrow boiling range

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From coast-to-coast, scores of multi-plant formulators depend on the unchanging uniformity of Espesol 5 in each of their locations. There's no altering of formulas to meet varying solvent specifications when you use Espesol 5. A non-phytotoxic, water-white, Xylene-base diluent, Espesol 5 is today's most widely imitated insecticide solvent. Save yourself formulation problems and at the same time offer your customers a premium product by using premium quality, high specification Espesol 5.

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Atlanta Office: 3121 Maple Drive, N.E., Phone CEdar 3-3227
Los Angeles Office: 110 S. Euclid, Pasadena, Phone MUrray 1-0278

Weed Killers Not Menace, Says Official

DURHAM, N.H.—Use of the new chemical weed killers and insecticides does not constitute a menace to the health of humans and animals, Dr. Clarence Hoffman, U.S. Department of Agriculture official, declared in a lecture at the University of New Hampshire here recently.

Dr. Hoffman, who is assistant director of the USDA's Entomology Research Division, spoke here in connection with a symposium on environmental health being conducted by UNH biological sciences division in cooperation with the UNH Alumni Assn.

He said the modern agricultural chemicals are so thoroughly and carefully tested that the possibility of their endangering human and animal health is extremely remote. The public is adequately protected by control legislation already in effect, but additional funds are badly needed for continued research on new products, he said.

Dr. Hoffman commended industry for what he described as its wholesome attitude in pooling its research and testing facilities with those of governmental agencies engaged in protecting the public. He concluded that no relationship had been established between the use of insecticides and the incidence of disease.

Ralph L. Gray Named New Spencer Director

KANSAS CITY, MO.—The board of directors of Spencer Chemical Co. elected a new director, Ralph L. Gray of Kansas City, chairman of the Armco Steel Corp., to fill the vacancy created by the death of Kenneth A. Spencer, chairman of the board and founder of the company, who died Feb. 19. The board also named company president, John C. Denton, as chief executive officer, and C. Y. Thomas, formerly vice chairman of the Spencer board, was elected chairman.

Ralph L. Gray

Mr. Denton said that Mr. Gray has had broad management experience as the chief executive officer of Armco Steel. Mr. Gray has been associated with Armco Steel since 1930, when Armco acquired the Sheffield Steel Corp. of Kansas City of which he was president.

NAMED DISTRICT OFFICER

PORTLAND, OREGON—Glen Fravel, Jenks-White Seed Co., Salem, has been reelected as Salem district governor of the Oregon Feed & Seed Dealers Assn. for the 1960-61 term. In addition to his election, two other governors have been named to date. They are Floyd Packer, Corvallis Feed & Seed, Corvallis, as Albany governor and Stan Cellers, Buchanen-Cellers Grain Co., McMinnville, as Washington County governor. Yet to be named are governors from the Eugene, southern Oregon and Metropolitan Garden Supply districts. New governors will take office during the annual association convention board meeting March 17 at the Sheraton Hotel, Portland.

NEW USE FOR FERTILIZER

MANHATTAN, KANSAS—Home owners who hesitate to use salt to melt ice and snow from walks and drives because of the harmful residues should try fertilizers, suggests a Kansas State University scientist.

Ray A. Keen of the K-State department of horticulture says he has used fertilizers for many years with good results. The fertilizers melt snow just as well as salt, and enough snow water is mixed with the fertilizer to dilute it so it does not burn the grass. This also adds beneficial nutrients.

Mr. Keen recommends any of the inorganic fertilizers like ammonium nitrate, 10-20-10, or any common lawn fertilizer.

Freeport to Boost Sulphur Capacity

NEW YORK—Start-up soon of Freeport Sulphur Co.'s new offshore sulphur mine, Grand Isle, will give Freeport the "greatest productive capacity" in its history, according to the company's annual report distributed to stockholders by Langbourne M. Williams, chairman of the board, and Charles A. Wright, president.

Grand Isle, located in 50 ft. of water seven miles off the coast of Louisiana, is the first offshore sulphur installation ever to be erected and will mine "one of the world's largest known sulphur deposits," the report stated.

W. H. Bricker Receives Chemagro Promotion

KANSAS CITY, MO.—W. H. Bricker has been promoted to the position of technical field representative for the central region of Chemagro Corp., Kansas City, manufacturer of agricultural chemicals.

W. H. Bricker

Mr. Bricker will make his headquarters at the company's regional office in St. Louis. With Chemagro since 1957, he formerly worked as a sales representative out of the St. Joseph, Mich., office.

In his new assignment, Mr. Bricker will work closely with agricultural extension specialists, county agents and farm advisers in the introduction and use of Chemagro products.

Prior to joining Chemagro, Mr. Bricker was a branch manager for California Spray-Chemical Corp. and also served as vocational agricultural instructor at Owosso High School, Owosso, Mich. He is a graduate of Michigan State University.

Tops $1 Billion Mark

NEW YORK—Sales by International Paper Co. and its subsidiaries in 1959 exceeded one billion dollars for the first time, it was reported by John H. Hinman, chairman of the board, and Richard C. Doane, president, in the company's 62nd Annual Report to its shareholders.

Sales at $1,030,208,695 were up 13% above 1958 and net earnings of $83,610,673, although they have not yet recovered to their 1956 level, were 16% above 1958. Sales in 1958 totaled $915,142,983 and net earnings amounted to $72,000,906.

REMEMBER TO ORDER
CHASE BAGS
There's None Better!

Missouri Fertilizer Use Rises by 23%

COLUMBIA, MO.—Fertilizer use in Missouri increased 23% last year to reach an all time high of 933,090 tons, according to a report issued by the Fertilizer Inspection Service of the Missouri Agricultural Experiment Station.

Greatest increases were made in use of mixed liquid and bulk dry fertilizer, says W. L. Baker, supervisor of the service. However, mixed fertilizer in bags, with 533,830 tons sold, continued to be most popular.

The report, "Missouri Commercial Fertilizer Inspection, Analysis and Tonnage Data," covers the period July 1, 1958 to June 30, 1959.

Fertilizers of 1-1-1 ratios grew in popularity and were more than half of the mixed fertilizer sold. For the first six months of 1959 the average composition of all mixed fertilizer was 10-14-12 (10% nitrogen, 14% available phosphoric acid, 12% potash).

The Missouri Fertilizer Law requires the inspection service to check fertilizer sold in the state to see that it is properly labeled.

Most popular single ratio indicated by the tonnage report was 12-12-12, which sold 246,697 tons for the report year.

PCA Announces Canada Mine Project

SASKATOON—The directors of Potash Company of America Ltd. have announced the engagement of Cementation Co. (Canada) Ltd. to proceed with a grouting program throughout all sections of its mine shaft located near here. The details of the project are now being developed by Cementation and envision a systematic and coordinated withdrawal of the refrigeration. It is estimated a year will be required to complete this work at a cost of approximately $900,000.

As a result of this decision, the company will suspend all activities related to an early resumption of operations and arrange to do the work necessary to protect the facility for the period required to finish this project. Upon completion of this protective work, staff and crews will be adjusted and the grouting program will become the only activity at the plant site.

JOINS STAUFFER

LOS ANGELES—Joseph H. Montiel has joined Stauffer Chemical Co. as sales representative, Imperial Valley, agricultural chemicals division. He will make his headquarters at El Centro. Mr. Montiel, a graduate in crop production and agronomy of California State Polytechnic College, formerly was in agricultural chemical sales and service in Mexico.

Why you'll sell more Grace Urea Prills This Spring

Its versatility and superiority help increase your volume and profits

You can recommend Grace Urea Prills for all crops, wherever a nitrogen fertilizer is needed.

In the spring, for example, these free-flowing, leach-resistant prills are ideal for preplant application. That's because they speed decomposition of stubble or plant residues being turned under.

And, of course, your customers can use Grace Urea Prills profitably for:

- ✓ Sidedressing or topdressing
- ✓ Foliar application
- ✓ Application in irrigation water
- ✓ Spring fertilization of pastures

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A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue concentrated in the Midwestern states.

Key to Productivity . . .

Fertilizer Production Given High Priority In USSR's Seven Year Agricultural Plan

APPARENTLY TAKING a tip from what its agricultural teams learned from numerous trips to the U.S., Soviet Russia is putting into action ambitious plans to triple its output of commercial fertilizers by 1965. The communists wish to attain self-sufficiency in agricultural commodities by then, and success in the fertilizer program will obviously be a key to achieving this aim. Still, the goal seems to be a little on the fantastic side . . . that of increasing gross agricultural production by 70% during the years from 1959-1965.

The Russians are also catching on to another angle of American agricultural know-how in deciding that merely adding more acres to the total is not the answer to production problems; that gaining more yield per acre through the employment of fertilizers, pesticides, and good cultural practices is more successful. Of course the objective in American farming is to cut unit costs of production and thus gain more profit, whereas the Russians boast that they don't have to worry about such mundane things as "profit". Still, the general goal is the same . . . to get more return for less expenditure of time and labor.

Well, how much additional fertilizer must the Soviets produce to come near to their goals? According to the control figures of their Seven Year Plan, production of fertilizers in the USSR is to increase from 12.4 million metric tons produced in 1958, to 35 million metric tons in 1965. That is quite a jump.

Output is expected to rise rather modestly during the early years of the period but, by 1965, the annual increment to production is expected to be more than four times as great as in the earlier years. New factories will be brought into production and existing plants are to be modernized, according to the plan. The new production units will be constructed throughout the principal agricultural areas of Russia, not only on the basis of accessibility of raw materials and electrical energy, but also on the basis of the planned regional fertilizer consumption patterns.

Nitrogen production will of course be one of the key considerations. Natural gas will be used extensively as a source of hydrogen in the north and northwest regions of the country, as well as in Belorussia, the Baltic Republics and in the North Caucasus. Phosphate and potash plants will also be constructed in these areas to make available complete plant food products. Previously, only limited quantities of fertilizer were produced in these areas.

Exploitation of potash deposits in the Urals, one of the centers of present fertilizer production in the Soviet Union, is to be stepped up. In the Ukraine, few new plants are to be constructed, but existing facilities will be reconstructed and expanded, the Plan indicates.

The Soviets are also facing up to the problems involved in low-analysis vs. high-analysis goods. According to reports, much of the output for the next few years will be in the form of "low-quality straight fertilizers," although Soviet officials recognize the waste involved in shipping "useless ballast in low-analysis fertilizers." Production of high-analysis goods is to be initiated in some areas, it is said.

Naturally, with increased output, the commissars will be sure the added fertilizer tonnages will be put to use on the land. Heretofore, fertilizers in Russia have been used almost exclusively on industrial crops such as cotton, flax, sugar beets, with cotton taking most of the tonnage.

Now, however, the greatest shift in the use of fertilizer is the planned allocation of 10 million tons for the fertilization of grain. It will be used in areas of adequate rainfall, chiefly in European USSR, where it can be utilized most effectively, and much of it will be applied to corn. This will be done mostly in the Ukraine where the Soviets are attempting to emulate the corn-hog farming system of the U.S. Corn Belt.

Other important uses of fertilizer will be on grain crops, to increase production of these to 30 million metric tons, or an average increase of about 15 bu. an acre.

Some of these plans sound rather grandiose to many whose judgment is sound and objective. On the basis of what has happened in past plans, the present ambitions are scarcely likely to succeed.

Looking Back . . .

What They Were Saying Five Years Ago . . .

FIVE YEARS AGO the pesticide industry had problems, but perhaps not so many of them. These were the days before the Delaney amendment, although discussions about residues were casting long shadows into the future.

Here are some quotes from talks presented at the spring meeting of the National Agricultural Chemicals Assn. at St. Louis in March, 1955:

"The existence of each of us in this business depends upon our performing a necessary function and getting paid for it. How much any of us is paid depends on how much the function he performs is worth to the ultimate consumer. . . . Fair profits all down the line from basic manufacturer to dealer are necessary to promote sound, stable industry growth.

"Probably the first commandment, then, should be 'Thou shalt make a profit.' The second commandment is like unto it: 'Thou shalt study thy costs so thou wilt know a profit when thou seest one.'

"Consignments cost money and 'deals' dip into the till. Good cost accounting may be more effective than a good conscience in keeping us on the narrow paths of sound business practice.

"Third, 'Thou shalt not covet thy neighbor's profit.' Sure, go after your competitor hammer and tongs. But let your suppliers and your distributors and your customers make their profit, too."—John L. Gillis, Monsanto Chemical Co.

* * *

"Manufacturers who are considering whether to enter or to leave the production of some items have, at present, no way to determine whether existing plant capacity is adequate with respect to possible markets.

"What is needed are (1) an over-all figure of production capacity, (2) up-to-date periodical production figures and (3) reports of inventories at various levels. The latter figure should include inventories of unformulated materials in manufacturers' hands, inventories of formulated materials by classes in manufacturers' hands and inventories of formulated materials in distribution channels."—W. W. Allen, Dow Chemical Co., then president of NAC.

Croplife's Home Office

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CROPLIFE is a controlled circulation journal published weekly. Weekly distribution of each issue is made to the fertilizer manufacturers, pesticide formulators and basic chemical manufacturers. In addition, the dealer-distributor-farm adviser segment of the agricultural chemical industry is covered on a regional (crop area) basis with a mailing schedule which covers consecutively, one each week, three geographic regions (South, Midwest and West) of the U.S. On the fourth week, production personnel in fertilizer manufacturing and pesticide formulating plants throughout the U.S. are covered in depth. To those not eligible for this controlled distribution, Croplife's subscription rate is $5 for one year ($6 a year outside the U.S.). Single copy price 25¢.

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March 27-30—American Mosquito Control Assn. 16th annual meeting; Somerset Hotel, Boston, Mass.

Meeting Memos listed above are being listed in this department this week for the first time.

March 30-31—Twenty-fourth annual meeting, Georgia Entomological Society, New Science Center, University of Georgia, Athens, Ga.

April 11-12—Eighth annual California Fertilizer Assn. Conference, sponsored by CFA Soil Improvement Committee, Fresno State College, Fresno, Cal.

June 9-11—Manufacturing Chemists' Assn. 88th annual meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.

June 12-15—National Plant Food Institute annual meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.

June 13-16—Western Society of Soil Science meeting, University of Oregon, Eugene, Oregon.

June 21-22—Eighteenth Annual Convention, Association of Southern Feed & Fertilizer Control Officials, Riverside Hotel, Gatlinburg, Tenn. For further information, write Maurice B. Rowe, secretary-treasurer, Department of Agriculture, 1119 State Office Building, Richmond 19, Va.

June 27-29 — Northwest Section, American Society of Range Management summer meeting, John Day, Oregon.

June 27-29—Pacific Branch, Entomological Society of America, Davenport Hotel, Spokane, Wash.

July 11-13—North Central Agronomy Society, Summer meeting, University of Minnesota Farm Campus, St. Paul, Minn.

July 13-15—Eleventh Annual Fertilizer Conference of the Pacific Northwest, Hotel Utah, Salt Lake City; B. B. Bertramsen, State College of Washington, Pullman, Wash., chairman.

July 27-29—Great Plains Agricultural Council, 1960 meeting, Laramie, Wyo.

July 27-30—Southwest Fertilizer Conference and Grade Hearing, Galvez Hotel, Galveston, Texas.

Aug. 2-3 — Ohio Pesticide Institute, Ohio Agricultural Experiment Station, Wooster, Ohio.

Aug. 15-23 — Seventh International Soil Science Congress, University of Wisconsin, Madison, Wis., Prof. Emil Truog, Congress Manager, Soils Building, College of Agriculture, Madison 6, Wis.

Aug. 21-25 — Canadian Fertilizers Assn., annual convention, Manoir Richelieu Hotel, Murray Bay, Quebec, Canada. H. H. Skelton, P.O. Box 147, Hochelaga Station, Montreal, Que., Canada, general chairman.

Aug. 25-27—Mississippi Soil Fertility and Plant Food Council, 1960 meeting, Buena Vista Hotel, Biloxi, Miss.

Sept. 24-26 — Western Agricultural Chemicals Assn., 31st annual meeting, Palm Springs Riviera Hotel, Palm Springs, Cal.

Sept. 27-29—Annual meeting of National Agricultural Chemicals Assn. for 1960, Hotel del Coronado, Coronado, Cal.

Sept. 27-29 — National Agricultural Chemicals Assn., 1960 meeting, del Coronado Hotel, Coronado, Cal.

Sept. 29-30—Northeast Fertilizer Conference, Hotel Hershey, Hershey, Pa.

Oct. 5-6—Southeast Fertilizer Conference, Atlanta Biltmore Hotel, Atlanta, Ga.

Oct. 17-21—48th annual National Safety Congress, Fertilizer Section, LaSalle Hotel, Chicago.

Nov. 13-15—California Fertilizer Assn., 37th annual meeting, del Coronado Hotel, Coronado, Cal.

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